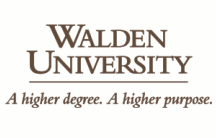

2017

The Core Competencies Necessary for Global Information Technology Project Management

Gregory Michael Von Schleh
Walden University

Walden University

College of Management and Technology

This is to certify that the doctoral study by

Gregory M Von Schleh

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

Review Committee
Dr. Susan Fan, Committee Chairperson, Doctor of Business Administration Faculty

Dr. Charlotte Carlstrom, Committee Member, Doctor of Business Administration Faculty

Dr. Gina Scoggins Smith, University Reviewer, Doctor of Business Administration Faculty

Chief Academic Officer
Eric Riedel, Ph.D.

Walden University
2017

Abstract

The Core Competencies Necessary

for Global Information Technology Project Management

by

Gregory M. Von Schleh

MBA, City University of Seattle, 1993

BS, City University of Seattle, 1992

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Business Administration

Walden University

December 2017

Abstract

Global information technology (IT) project management organizations can create more value in their operations by presenting the core competencies possessed by global IT project managers (PMs) who are successful in their respective projects. The purpose of this multiple case study was to explore the core competencies and business strategies that IT PMs use to meet global IT project deadlines and budgets. This study involved 5 IT PMs from the Pacific Northwest (United States and Canada) who increased the quality of outsourced IT projects from 4 different companies. The data collection method included in-person semistructured interviews of participants and review of existing company data. Thematic analysis of data included the use of member checking to ensure that the results of this study accurately reflected the experiences of the participants. The conceptual framework that guided the research was organizational learning theory. Two major themes were uncovered during data analysis; the first was global IT project management barriers and reasons for failure, and the second was competencies and strategies for successful global IT project management. Additionally, 4 subthemes were identified: lack of communication and quality, issues with culture and time, mindful of cost and coordination, and cultural awareness and communication. This study shows how successful IT projects benefit organizations and society with better products and services at lower costs. The findings may assist IT PMs in applying core competencies and business strategies to manage global IT projects to meet project deadlines and proposed budgets, which may, in turn, help companies contribute to corporate social responsibility efforts through improvements in ethical standards and international norms.

The Core Competencies Necessary for Global Information Technology Project Management

by

Gregory M. Von Schleh

MBA, City University of Seattle, 1993

BS, City University of Seattle, 1992

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Business Administration

Walden University

December 2017

Dedication

I am dedicating this study to my wife Jan Therese Von Schleh. Her support of my educational goals, and her confidence during this journey was instrumental. I also dedicate this work to my late mom (June Rose Schley) and dad (Walter Leo Schley), for the confidence, acumen and fortitude that they instilled in me; I am sorry they will not get to see my completed dissertation. And finally, I want to dedicate this work to all my colleagues at the Department of State, for their encouragement and support throughout this project. I hope that this accomplishment will inspire some to pursue their own doctoral degree in the future. To all of you, I say thank you and to my wife, I love you.

Acknowledgments

With sincere gratitude, I want to thank my entire doctoral study committee for guiding me through this process and helping me improve my doctoral study. I especially want to recognize my mentor and doctoral study chair, Dr. Susan Fan, who kept me on course, and encouraged and advised me throughout the successful conclusion of this study; you are my hero. To my 2nd Committee Member, Dr. Charlotte Carlstrom, your guidance and suggestions throughout the process were essential to my success. And to URR Dr. Gina Smith, thank you for your support. I appreciate your efforts and recognize the impact of your recommendations on my final product.

Table of Contents

List of Tables

List of Figures

Section 1: Foundation of the Study

Information technology (IT) projects have a high failure rate; this is particularly true of global IT projects (Lee, Blake, & Baby, 2015). Weaknesses may occur in the core competencies necessary for global IT project management. To increase IT success rates, a more in-depth understanding of the necessary actions is required (Lee et al., 2015). This section includes the foundation of the study, the background and definition of the research problem, the purpose of the study, and the nature of the research. Additionally, it includes the study's research questions, conceptual framework, assumptions, limitations, and delimitations.

Background of the Problem

Since 1990, leaders in many organizations have felt influenced by the globalization of the business environment (Chuang, 2013). This emerging global market has created a need for global corporations that use geographically dispersed teams (Chuang, 2013). Such teams cannot rely upon face-to-face communication to meet existing information needs and resolve incidents (Zwikael & Smyrk, 2015). When unexpected and nonroutine incidents occur, international business leaders question whether existing processes or predetermined methods will be able to resolve the problem (Langer, Slaughter, & Mukhopadhyay, 2014). As the primary decision maker, a project manager (PM) has the ultimate responsibility to ensure that the project runs smoothly (Zwikael & Smyrk, 2015). The focus of PMs on ensuring that projects run smoothly has influenced the prosperity and progress of organizations, countries, and nations since the beginning of the industrial revolution (Langer et al., 2014). The opacity of project goals

and the difficulty of resolving conflicts in dispersed teams increase a project's information constraints and the likelihood of critical incidents (Langer et al., 2014).

A number of factors enabled rapid globalization. These factors included (a) significant changes in geopolitical relations between the East and West, (b) the widespread growth of digital information, (c) physical and financial infrastructure, (d) computerized manufacturing technologies, and (e) the proliferation of bilateral and multilateral trade agreements (Camilla, Serlenga, & Shin, 2013). Despite this, previous research (Camilla et al., 2013) found that the increase of risks and costs when working abroad contribute to international differences.

Problem Statement

A loss of 50 to 80 billion dollars occurs annually for canceled and unsuccessful global IT projects constituting global IT project failures, representing a significant loss to businesses (Kuesten, 2013). Typically, an IT project runs 45% over budget and 7% over timeframe and distributes 56% less value when compared to PM expectations (Kuesten, 2013). Common project execution barriers include organizational structures, cultural differences, development models, lack of skills and competencies, and insufficient senior management support (Galvin, Gibbs, Sullivan, & Williams, 2014). The general business problem is that the ineffective management of global IT projects can negatively influence profitability (Galvin et al., 2014). The specific business problem is that some IT PMs lack core competencies and business strategies to meet global IT project deadlines and budgets.

Purpose Statement

The purpose of this qualitative multiple case study was to explore the core competencies and business strategies that IT PMs use to meet global IT project deadlines and budgets. The targeted population consisted of five IT PMs from the Pacific Northwest who had increased the quality of outsourced IT projects. The study's implications for positive social change include the potential to help companies contribute to corporate social responsibility (CSR) efforts through improvements in ethical standards and international norms. This study also has the potential to promote positive social change for individuals, communities, and society by assisting researchers in understanding how people from different cultures and nations adopt new and existing technologies that could benefit social development.

Nature of the Study

Method

There are three principal research methods: quantitative, qualitative, and mixed methods (Tracy, 2013). Researchers use the quantitative method to prove or disprove hypotheses or to answer yes-and-no questions (Tracy, 2013). Within quantitative studies, researchers use statistical methods to analyze numerical data to find answers (Tracy, 2013). By contrast, qualitative methods involve observing how people interact with and make sense of the world (McNulty, Zattoni, & Douglas, 2013). Mixed methodology involves combining quantitative and qualitative methods (Tracy, 2013). I chose the qualitative method because of this study's emphasis on the importance of organizational learning. The quantitative and mixed methods would not have met the needs of this study.

Design

I considered the use of several qualitative designs for the study. The designs I considered included ethnography, phenomenology, and case study. Ethnography is a research design that requires the researcher to immerse himself or herself within the culture under review (Mannay & Morgan, 2015). Staying in the field for a longer time inevitably entails researchers' involvement in the lives of the communities they study. As a consequence, the researcher using ethnography cannot remain an outsider throughout the process (Jansson & Nikolaidou, 2013). I deemed this design inappropriate for this study. The next research design that I considered was phenomenology, which emphasizes lived experiences of a phenomenon (Kafle, 2013). Because phenomenology specifically looks at the objects of direct experience, I identified this research design as incompatible with the research questions. In that I did not attempt to generate theory from empirical data, this research design was inappropriate for the purposes of this research study. A case study research design includes a bounded unit called a *case* and can be simple or complex (Yin, 2014). Case study research gives the researcher the opportunity to understand the complexity of a case and its boundaries in the most complete way (Stake, 2013). Because I sought to understand individual cases in addition to identifying similarities and differences among cases, a case study research design was most appropriate and effective in answering the research question.

Research Question

The overarching research question was the following: What core competencies and business strategies do information technology project managers use to meet global IT projects' deadlines and budgets?

Interview Questions

1. What business strategies do you consider the most critical when managing global IT projects?
2. What are the most common causes for failure in managing global IT projects?
3. How do you manage the variations in culture, time, geography, and law when managing global IT projects?
4. What are the biggest barriers that you must overcome when managing a global IT project?
5. What key success factors did you experience when you managed a global IT project?
6. Is there any additional information on core competencies and business strategies for global IT projects that you would like to share?

Conceptual Framework

Argyris and Schön's (1978) organizational learning theory formed the basis for this study. Organizational learning represents a product of organizational inquiry and is the foundation of all organizations, especially those operating in unfamiliar territories or contexts (Argyris & Schön, 1978). When organizations operate in unfamiliar territories or contexts, discrepancy emerges between expected outcomes (what PMs believe will

happen) and actual outcomes (Hoch & Kozlowski, 2014). To overcome this discrepancy between expected and actual outcomes, an organization must undertake an inquiry to allow learning to occur between the project team and the client (Argyris & Schön, 1978; Hoch & Kozlowski, 2014).

Johnson et al. (2014) stated that organizational learning has three stages. The first stage is the acquisition of relevant data, during which the organization acquires information on strategic decisions, administrative activity, intermediate goal variables, and learning indicators (Johnson et al., 2014). The second stage involves interpretation, whereby the organizational leaders engage in continuous comparison of the results to update or add them to the memory of the organization (Johnson et al., 2014). The third and final stage involves adaptation or action (Johnson et al., 2014). Organizational learning theory was a good fit for this study because of its suitability for explaining the management of global IT project teams, especially in terms of understanding how they succeed in various facets of a project, including meeting project deadlines and staying within the allotted budget. The theory aligned with the purpose of the study, which was to explore how IT PMs use core competencies and business strategies to manage global IT projects to meet project deadlines and proposed budgets.

Operational Definitions

Business globalization: This term refers to the practice of transforming a business from a localized to a global one, or to a business that is unlimited by national or geographical boundaries (Popescu & Stoica, 2015).

Buy-in: Buy-in refers to a PM's attempt to obtain the involvement and support of all critical people in the organization, especially the top management teams, for a project. Without such involvement and support, a project can fail before it starts (Sumner & Powell, 2013).

Core competencies: In the context of this study, this management term refers to effective behaviors or skills used by IT PMs to complete projects as successfully as possible. Depending on the type and scope of the project, the competencies of PMs vary in depth and breadth (Ahsan, Ho, & Khan, 2013).

Corporate social responsibility (CSR): CSR includes organizations' contributions to local communities, in kind or in monetary form, as tokens of appreciation and contributions to society's wellbeing (Kwak, Walewski, Sleeper, & Sadatsafavi, 2014).

Global IT projects: These represent IT projects that organizations implement across the world that have an international outlook. The projects may take place in one country; however, IT projects may also occur in a number of foreign countries (Gonzalez, Llopis, & Gasco, 2013).

IT infrastructure: This term includes description of a combined set of hardware, software, networks, and facilities (including all IT) used to develop, test, deliver, monitor, control, or support IT services. Associated people, processes, and documentation are separate from the IT infrastructure (Gonzalez et al., 2013).

Offshore outsourcing: This includes the practice of providing work associated with IT to a provider based in a country other than that of the client (Gonzalez et al., 2013).

Project management competencies: This term refers to the knowledge and skills necessary for effective project management (Kwak et al., 2014).

Assumptions, Limitations, and Delimitations

Every study includes assumptions, limitations, and delimitations. Prior acknowledgment of assumptions, limitations, and delimitations helps researchers anticipate issues and prepare appropriately. In this section, I present the key assumptions, delimitations, and limitations of the study.

Assumptions

Gioia, Corley, and Hamilton (2013) noted that assumptions are something that a researcher accepts as true without a concrete proof. In essence, researchers cannot verify the accuracy of assumptions. In this study, I assumed that the feedback received from the interviewees was correct and without bias.

Limitations

A limitation is an uncontrollable threat to the internal validity of a study (Gioia et al., 2013). Because I used a case study research design, I anticipated challenges regarding data collection. This challenge extended to interview feedback from a small sample of people and a lack of generalizability among interview findings.

Delimitations

Delimitations are boundaries to a study that the researcher determines (Gioia et al., 2013). In this study, the main boundary was identified by the case of interest, which included only IT PMs who worked on global IT projects. In addition, the study was delimitated to an examination of core competencies and business strategies used to meet

deadlines and budgets within these global projects. These delimitations were determined based on the gap in literature regarding empirical evidence of the core competencies of global IT and other projects. This was further compounded by the requirement that participants have salient experience with the case of interest (Yin, 2014). As such, only PMs had experiences relevant to the study.

Significance of the Study

Contribution to Business Practice

This research study has the potential to benefit companies and stakeholders in the IT sector. It could especially help companies and stakeholders that want to expand and globalize their business. The findings could also provide insight into the systems that handle medium- and large-scale IT projects in general, especially those executed across national borders.

Effective global IT PMs are marketable in today's global world, and the demand for them relates to the management of human resources (e.g., project teams; Rodrigues & Sbragia, 2013). The management of project teams determines the success of global IT projects (Rodrigues & Sbragia, 2013). Therefore, if an organization’s leaders wish to maintain the organization’s competitive edge within the global market, the organization may manage various IT projects overseas because of scarcity of required resources in the host country (Rodrigues & Sbragia, 2013). As the world continues to be globally connected, organizations have little choice except to go global (Rodrigues & Sbragia, 2013).

In addition, Lofsten (2016) asserted that understanding and a competitive nature are important for organizational success in the global arena. IT, especially IT project management, is an area where the most intense competition resides (Lofsten, 2016; Rodrigues & Sbragia, 2013; Wang & Zhang, 2015). The goal of this study was to assist in identifying the core competencies that global IT PMs need to cultivate to achieve necessary competitiveness. I have demonstrated that this study may add to existing knowledge on IT project management, particularly concerning how global IT project management organizations can create more value in their operations by presenting the core competencies possessed by global IT PMs who are successful in their respective projects.

Implications for Social Change

This study also has potential social importance in addressing the concept of CSR. For most organizations, CSR relates to profitability (Awan & Akhtar, 2014). Generally, higher profits result in greater commitment to CSR, whereas lower profits reduce CSR allocations (Awan & Akhtar, 2014). One way of enhancing profitability and contributions to social welfare programs for global IT organizations involves ensuring that they accomplish and preserve a competitive edge within the foreign market (Mir & Pinnington, 2014). Through this study, I uncovered the core competencies necessary for the achievement of this competitive edge.

Finally, this study may assist researchers in understanding how people from different cultures and nations adopt new and existing technologies. Traditionally, failure on behalf of individuals to embrace and make effective use of technologies represented a

major hindrance to social development (Awan & Akhtar, 2014). I have used this study to reveal how to conduct cross-cultural and cross-national interactions for the benefit of all concerned stakeholders.

A Review of the Professional and Academic Literature

Within this section, I provide a critical review of the existing literature on the topic of global IT project management. This review pertains to the core competencies necessary for global IT project management. The purpose of the study was to include the analysis of the core competencies necessary for global IT project management. Management of IT projects in the global arena is a topic of much interest, as IT project management is a multidisciplinary issue that affects nearly every organization. Therefore, the effective management of IT projects in the global arena represents a timely and far-reaching subject to study.

I obtained the literature compiled for this review through comprehensive online library search strategies. Among the journal databases searched, those that generated the most applicable results included Emerald, JSTOR, and Google Scholar. Keywords used to search the literature included *project management*, *global IT project management*, *international IT projects*, *core competencies in global risk management*, *best practices for IT management*, *technology acceptance abroad*, and *implementation of IT projects*. A total of 168 references existed in this study, including 14 books (8%), 147 peer-reviewed journal articles (88%), three academic proceedings (2%), and three reports (2%). Of the total number of sources, 145 (86%) were published between 2013 and 2017.

Organizational Theory

The main conceptual framework that I used for this study consisted of organizational learning theory. This theory supported the needs of this study because of its emphasis on the importance of organizational learning or inquiry (Argyris & Schön, 1978). Because global IT project teams work worldwide and encounter situations different from those with which they are familiar, IT project teams require a great deal of inquiry to cope (Stan & Vermeulen, 2013). Therefore, the theory met the needs of the current study. Global IT project teams have to learn about a multitude of cultures within the countries in which they work, including cultures deriving from the various people, political and security situations, and business processes traditionally associated with the host country (Argyris & Schön, 1978). Employees and teams cannot understand the multiple facets of these cultures without learning about them; failure to do so can ultimately lead to the failure of global IT projects (Stan & Vermeulen, 2013).

Argyris and Schön (1978) developed organizational learning theory from organizational inquiry, which every organization uses, especially those that operate in unfamiliar territories or contexts. Organizational leaders expect certain outcomes, which frequently differ from *actual* outcomes (Argyris & Schön, 1978). Unless an organization's leaders address this discrepancy, they could face backlash from customers and profitability may decrease; ultimately, they may not maintain a competitive edge (Argyris & Schön, 1978). To overcome the discrepancy between expected outcomes and actual outcomes, the concerned organization may undertake an inquiry (Argyris & Schön, 1978). In this process of inquiry, interactions occur between project team members and

the client through a knowledge management representative (Hoch & Kozlowski, 2014). In the end, learning takes place, and all participants in the project understands what the management expects of them (Hoch & Kozlowski, 2014). Most of the time, this interaction extends beyond the defined organizational rules and procedures (Argyris & Schön, 1978).

Organizational learning theory includes the assumption that every organization has its own culture to which every employee fully adheres (Hoch & Kozlowski, 2014). Therefore, the organization has unique instructions regarding the codes of conduct of every employee on every issue (Hoch & Kozlowski, 2014). These narrow and specific instructions often confine employees to a predetermined course of action (Hoch & Kozlowski, 2014). In a foreign environment, employees may have to change their conduct to undertake projects that require them to learn new processes in a new context (Casillas & Moreno-Menendez, 2014). The members of the concerned firm or team must make conscious decisions to change their actions in response to changes in circumstances for learning to occur (Casillas & Moreno-Menendez, 2014). This process ensures that actions and outcomes link logically (Casillas & Moreno-Menendez, 2014). In this regard, organizational learning theory parallels many cognitive and psychological theories (Casillas & Moreno-Menendez, 2014). This outcome occurs because organizational learning takes place at a time when the involved individuals share information about new circumstances; prior to this, learning occurs at the individual level (Casillas & Moreno-Menendez, 2014).

Stages of organizational learning. Johnson et al. (2014) stated that

organizational learning occurs in three stages. The first stage involves the acquisition of relevant data, during which the organization acquires information on four main factors (Johnson et al., 2014). These factors represent memories of valid action-outcome links, the conditions of the environment in which these links exist, outcomes' probabilities, and the uncertainty that surrounds the given probabilities (Johnson et al., 2014). The second stage consists of interpretation, which involves the organization engaging in continuous comparisons of the results to update or add results to the organization's memory (Johnson et al., 2014). The organization must process unexpected results to determine causes and adapt actions to these results (Johnson et al., 2014). Furthermore, new action-outcome links must receive specification, leading to an increase in learning (Johnson et al., 2014). The third and final stage involves adaptation or action. At this stage, the organization uses the knowledge it has interpreted to select new action-outcome links that are ideal for the new circumstances (Johnson et al., 2014).

Organizational learning theory represents one conceptual framework that can effectively explain this study. Alternative theories include the technology acceptance model (TAM). Organizational learning theory introduces the TAM, which includes a description of people's reactions to new technology (Venkatesh & Bala, 2013). Through organizational learning, an organization's project team members can learn about the specific issues that determine acceptance of new technology, including perceived ease of use and perceived usefulness (Venkatesh & Bala, 2013). Both TAM and organizational learning theory were important to this study, as each correctly clarified a specific aspect of the subject matter. While TAM includes an explanation of the importance of managing

user perceptions, organizational learning theory includes an explanation of the importance of using available knowledge (through inquiry) to align actual outcomes to expectations (Venkatesh & Bala, 2013). Both models are important, but neither can solely explain global IT project management.

I endeavored to review organizational learning theory in a critical light before providing an in-depth examination of the provisions of TAM. I used this conceptual framework to justify the need for organizations to engage in inquiry, especially when operating in unfamiliar environments or contexts. The need for learning is urgent and imperative for project teams working on global IT projects (Stan & Vermeulen, 2013). These project teams require a wealth of knowledge about projects and the places where their organizations implement them (Stan & Vermeulen, 2013). Because of strict timelines and budgets, global projects require implementation teams to succeed the first time (Stan & Vermeulen, 2013). As Stan and Vermeulen (2013) discovered, second chances do not exist in business, and no room for error exists either.

In undertaking such global IT projects, inquiry must be a constant process from the start until the end (Beringer, Jonas, & Kock, 2013). Inquiry on behalf of global IT project teams includes discovering clients' perceptions of the product (Beringer et al., 2013). Prior knowledge of these perceptions will enhance the quality of the product (Beringer et al., 2013). However, not all global IT projects have to involve learning new things to become successful. Therefore, not all project team members need to learn (Beringer et al., 2013). Despite this lack of need, organizational learning is almost indispensable for organizations working in unfamiliar environments (Beringer et al.,

2013). The importance of organizational learning signals an increasing and evolving need for teaching and instruction (Beringer et al., 2013).

An organization can lack knowledge even when operating locally within its own neighborhood (Beringer et al., 2013). For instance, General Motors may need to learn about the online consumption habits of Americans. Although the corporation resides in America, General Motors still needs to learn the area or subject matter pertaining to the online consumption of Americans. Corporations do not know this area or subject matter, which necessitates research (Beringer et al., 2013). In this situation, learning occurs in a domestic market, and not in an international or global one (Beringer et al., 2013).

A company may reside in a foreign country but still possess the knowledge necessary for successful operations in that country (Awate, Larsen, & Mudambi, 2015). For example, an American IT company with a branch in a foreign country that is working on an IT program for another American firm with a regional office in a foreign city may not require much learning (if any at all) about the American firm (Awate et al., 2015). Because the businesses know each other, organizational learning becomes useless for the IT company in this situation (Awate et al., 2015).

The nature of projects means that they do not last forever (Scott & Lock, 2013). Therefore, learning usually depends on project length (Scott & Lock, 2013). Shorter projects may not require organizational learning at all (Scott & Lock, 2013). Because organizational learning does not always prove to be necessary for all global project companies, this theory might not have represented the best conceptual framework for the study (Scott & Lock, 2013). Organizational learning theory also does not take into

consideration or address the critical issues of length of time and nature of operations (Scott & Lock, 2013). The theory helps explain offshore projects, but not necessarily, those outsourced offshore. In the former situation, learning is unnecessary because the players are familiar with the territories and operations (Scott & Lock, 2013). However, in the latter case, such knowledge is limited (Scott & Lock, 2013). Therefore, a need for organizational learning exists (Beringer et al., 2013).

Technology acceptance model. The TAM coincides with the most influential extensions of the theory of reasoned action developed by Fishbein (1979). Davis, Bagozzi, and Warshaw (1992) developed the TAM to predict people's behavior toward new technologies. The model functions as a prediction of the way in which people behave when they encounter a technology that is new or unfamiliar (Mishra, Akman, & Mishra, 2014). More specifically, the TAM is a model that researchers widely use for examining the acceptance and subsequent use of new ITs across the world (Cheung & Vogel, 2013).

I wanted to explore the core competencies necessary for global IT project management. The TAM was an appropriate model for the study because researchers use this model to predict and explain not only behavioral intentions, but also actual behaviors of people in different contexts who implement new technologies (Mishra et al., 2014). The underlying principle of the TAM is that the perceptions that people have regarding a given technology are critical in the formation of their attitude toward the new technology (Venkatesh & Bala, 2013). Ultimately, these attitudes may directly determine the extent to which consumers accept and use the new technology. Project managers have the

responsibility of ensuring that they understand these subjective attitudes to ensure success in their IT projects (Turner, Anbari, & Bredillet, 2013).

Furthermore, researchers using TAM have stated that an individual's behavioral intentions determine the actual usage of a new technology or system (Venkatesh & Bala, 2013). These affect the individual's attitude toward use (Svendsen, Johnsen, Almås-Sørensen, & Vittersø, 2013). The ease of use of a system and its actual usefulness influence the attitudes of individuals (Svendsen et al., 2013). *Perceived usefulness* refers to the subjective probability that an individual using a specific system will achieve enhanced performance within the organization (Svendsen et al., 2013).

Perceived usefulness consists of the expectation of the system user that some benefit will derive from using the system; generally, users tend to accept and use systems that they perceive as useful (Turner et al., 2013). Users who think that a system does not add any real value will have negative perceptions of it (Turner et al., 2013). Perceived ease of use refers to the degree to which individuals expect the new system to be simple: The easier a system is to use, the more favorably consumers will perceive it (Turner et al., 2013). Users are less likely to perceive complex systems favorably, even if the systems stand as useful, which means that users reject them more consistently. Therefore, the nexus between perceived ease of use and perceived usefulness determines, to a great extent, acceptance or lack of acceptance for new technological systems (Svendsen et al., 2013).

Global IT managers have the added responsibility of ensuring that IT projects launched and implemented abroad are parallel with the culture of the host nation and that

they add value to the company (Svendsen et al., 2013). If the projects do not add value, managers have to find alternative ways of ensuring that users perceive them favorably (Svendsen et al., 2013). Elements of new technology are present in the nature of IT projects, and global IT PMs must understand and respond to the attitudes of the people in host countries (Svendsen et al., 2013). This strategy fosters success on behalf of global organizations (Svendsen et al., 2013).

The TAM includes flaws. Svendsen et al. (2013) stated that one of the main shortcomings of this model is its suitability for explaining technology acceptance anywhere, in any context (i.e., how populations receive new technologies locally as well as internationally). However, this did not define the focus of the study. The primary concern of this study was IT project implementation in the global arena. Because of this focus, understanding how populations receive technology was not as important as knowing how they receive technology internationally.

In addition, TAM researchers succeed in explaining the acceptance of new technologies (Venkatesh & Bala, 2013). This outcome was unimportant for the study because those who manage global IT projects do not consider how people receive technologies; rather, IT PMs consider how project team members perform (Venkatesh & Bala, 2013). To some extent, these project team members may affect project implementation through their perceptions of the project (in terms of usefulness, ease of use, and trust). However, these effects could be minimal and limited (Venkatesh & Bala, 2013).

Project team members rarely feel concerned about how consumers will receive the final technology (Venkatesh & Bala, 2013). The managers focus more on the delivery of the project within the required quality standards and timelines (Venkatesh & Bala, 2013). People's receptivity toward a project is a key indicator of its quality and its timeliness, as people may not accept IT products that have come late (Venkatesh & Bala, 2013). It may be beneficial to project team members to know the reception of the outcome of their project. However, the three main variables of TAM—perceived ease of use, trust, and perceived usefulness—do not occur, in terms of project team members (Venkatesh & Bala, 2013). Therefore, TAM remained unsuitable for explaining global project management in this study.

Project Management

The main purpose of this study was to investigate the core competencies of global IT project management and define which aspects work and which do not. I aspired to identify the properties that make global IT projects successful. To understand this, it was important to explore the definition of project management and its variations.

One of the most widely discussed aspects of project management is how project management differs from other operations (Galvin et al., 2014). Regardless of where the management for specific projects occurs (locally or globally), managing projects is a short-term endeavor, often constrained in several ways (Galvin et al., 2014). Time and resources represent two main limitations associated with project management (Galvin et al., 2014). Unlike ordinary organizational operations, which can become time consuming or repetitive, projects have a strict timeframe (Galvin et al., 2014). However long or short

this timeline, projects only last for the stipulated timeframe; going beyond this timeframe can result in losses for the organization involved (Galvin et al., 2014).

The ordinary operations of an organization, often referred to as *business as usual,* can represent permanent, repetitive, or semi-permanent functional activities, which generate products or services (Galvin et al., 2014). However, projects are temporary endeavors, which have the purpose of producing unique results, products, or services (Mir & Pinnington, 2014). The value of project management is not so much in achieving project efficiency in individual projects; rather, the value of project management lies in its overall degree of success, which encompasses customer satisfaction, business success of the organization and achievement of long-term benefits (Mir & Pinnington, 2014). In the case of IT projects, this value is evident. IT helps managers expedite processes and activities undertaken by organizations, and reduce labor and capital costs. Projects also have a predetermined and defined start and end time. If not constrained by time and resources, deliverables constrain projects. Success and PM performance are distinct, but interrelated concepts, and individuals seek a positive relationship between them (Mir & Pinnington, 2014).

With respect to PM, the major challenge that organizations face is the need to meet all the project's goals while adhering to its constraints, such as time and resource limitations (Galvin et al., 2014). Time, budget, quality, and scope represent the primary challenges the PM has to overcome (Galvin et al., 2014). An added challenge exists when optimizing the allocation of the appropriate inputs and the integrating views to meet pre-defined objectives.

In contemporary times, project management includes common management methods. With globally dispersed projects, project management success depends not only on the effective use of managerial tools and leadership style in one particular location, but also on the effective use of relevant techniques across different nations (Ika & Hodgson, 2014). Because different nations have different cultures, project teams working in different locations abroad must ensure they align the organizational culture to the national culture to successfully complete the task while remaining respectful of the host nation (Ika & Hodgson, 2014).

These project teams must adopt management tools, techniques, and leadership styles to local cultures and organizational values without losing consistency, purpose, and managerial integrity (dos Santos Teixeira, Maccari, & Simonsen, 2016). Management uses change management goals to focus on soft issues, such as culture, leadership, and motivation (dos Santos Teixeira et al., 2016). Such elements are important for success, but managing these aspects alone does not lead to the sufficient implementation of transformation projects (dos Santos Teixeira et al., 2016).

Globetrotting represents another aspect of success as a normal practice for today's project professionals and their respective teams (Awate et al., 2015). Corporate executives observed cultures around the world and learned to work seamlessly across borders (Awate et al., 2015). As the effects of globalization shape the business arena, and as countries experience increased connectivity, integration, and independence in the economic, social, technological, cultural, political, and ecological spheres, commercial activities are changing (Awate et al., 2015). Despite the importance of role concepts in

both change management and project management, a lack of scientific research exists to allow the exploration of these two fields simultaneously (Awate et al., 2015).

Core Competencies in Project Management

Sumner and Powell (2013) investigated the most important competencies for project management. These competencies include not just hard skills, but soft ones as well. Furthermore, the researchers aspired to determine the importance of each of the competencies to job success (Sumner & Powell, 2013). Finally, Sumner and Powell determined the performance of PMs with respect to each of the core competencies (Sumner & Powell, 2013). The gaps that exist between the importance of the various core competencies and the actual performance of the PMs actually provide opportunities for professional development programs and courses (Sumner & Powell, 2013). Sumner and Powell found that the most important core competencies were those that had scores of between 4.4 and 5.0 on a scale of 1 to 5. The researchers considered the competencies that participants rated 5, as *highly important* (Sumner & Powell, 2013).

Overall, the core competencies included managing effective project communications, managing scope, obtaining the buy-in of project sponsors, defining project scope, getting requirements right, and collecting requirements (Sumner & Powell, 2013). For soft competencies, the most important were leadership skills, influencing skills, conflict resolution skills, leadership presence, skills for dealing with human factors, planning and organizational skills, effective situational communication, and general communication skills (Sumner & Powell, 2013). Sumner and Powell (2013) argued the importance of organizations for ensuring that PMs receive proper training in

the identified core skills, where the physical location of the training matters little, and instead only the employees who acquire the skills pertinent for the success of the organization's projects are important. Furthermore, Sumner and Powell (2013) advocated equal prioritization of both hard and soft competencies.

Sumner and Powell (2013) noted some of the key competencies in project management, as well as how organizations should acquire these skills. Experts design training programs and courses that emphasize both hard and soft skills so that PMs demonstrate these core competences (Sumner & Powell, 2013). Organizations may offer on-the-job training in these competencies to ensure that their workforce successful incorporates those (Sumner & Powell, 2013).

The findings of Sumner and Powell (2013) do not necessarily reflect those of the industry because of their inherent subjective nature. Sumner and Powell (2013) based their findings on feedback from a representative sample; therefore, they cannot represent the position held by all industry players. Even though the findings did not constitute a sufficient deficiency, Sumner and Powell (2013) performed the analysis of core competencies subjectively, however, other core competencies may exist. A Project Management Advisory Board consisting of 25 experienced project management professionals reviewed and approved a list of core competencies for Sumner and Powell (2013). However, this result was not sufficient to make the list of core competencies all-inclusive (Sumner & Powell, 2013).

Similar to Sumner and Powell (2013), Nikpay, Selamat, Rouhani, and Nikfard (2013) studied the outcomes and success factors of enterprise IT architecture

management, with a specific focus on the concept of success factors. Nikpay et al. (2013) argued that most corporate IT environments are considerably complex. Management practices are difficult to carry out, which results in poor flexibility and high costs (Nikpay et al., 2013). Nikpay et al. (2013) also contended that through long-term and continuous management at the level of the IT enterprise architecture, firms might ensure the sustainability of corporate environments. Therefore, firms must implement dedicated IT enterprise architecture management (EAM) functions as a way of overcoming the problem (Nikpay et al., 2013). Unfortunately, little knowledge exists about the effectiveness of these EAM functions (Nikpay et al., 2013).

Using empirical insight from the international financial services industry, Nikpay et al. (2013) found that implementing an EAM function helps support the creation and sustenance of both IT flexibility and IT efficiency. Architectural governance rests among the most important factors necessary for the achievement of set goals (Nikpay et al., 2013). The aspect of flexibility is important in corporate IT management, especially regarding cross-border management and working with people of different cultures (Nikpay et al., 2013).

Flexibility removes complexity and facilitates all processes related to a given project by making the processes more efficient. Nikpay et al. (2013) made significant contributions to the body of knowledge, regarding IT project management. Nikpay et al. (2013) addressed an aspect of IT that has had little or no scholarly attention in the recent past: enterprise IT architecture management. Nikpay et al. (2013) asserted that EAMs represented an effective means of overcoming problems, and Packendorff and Lindgren

(2014) felt that the key to solving these problems consisted of *projectification*, or the establishment of project management as an engine of renewal within a permanent organization. This strategy reflects the notion that organizations in all industries evolve in their approach to creativity and innovation (Nikpay et al., 2013).

The need for change, or to manage change, represents another aspect that researchers cited as having importance for global projects (Panas, Pantouvakis, & Lambropoulos, 2014). As such, organizations implementing global projects must ensure the adaptation of their structures and project management methodologies (Panas et al., 2014). Management must use the change to focus on the whole organization from different perspectives if the organization or project team is to succeed (Panas et al., 2014).

In a similar study, van der Aalst (2013) argued that Business Process Management (BPM) research resulted in a multitude of methods, techniques, and tools to support the design, enactment, management, and analysis of operational business processes. This area received considerable attention because of its potential for significantly increasing productivity and saving costs (van der Aalst, 2013). Over the last decade, a growing interest continues in BPM. Practitioners use BPM technologies to model, improve, and enact business processes (van der Aalst, 2013). Currently, a plethora of BPM systems and tools are available (van der Aalst, 2013). Van der Aalst (2013) also stated that effective business processes must be able to accommodate changes in the environment in which they operate, for example, new laws, changes in business strategy, or emerging technologies. The manager uses management tools to monitor the flow of

work and act if necessary (van der Aalst, 2013). However, the key tenets are almost the same: changes in one element affect the other elements as well (van der Aalst, 2013). As such, management has to be conscious of the various elements when implementing change (Hoang, Jung, & Tran, 2014).

The organizational elements that exist provide no new contributions to understanding project management, and current research does not identify how the elements affect project management and implementation (Hoang et al., 2014). The arguments underscore the importance of changing all elements that affect projects in synchronization and not in isolation (Hoang et al., 2014). However, a need exists for scholars to highlight the implications of implementing some of the elements separately from the rest. For example, new research can be valuable in explaining how changing the tools, but leaving the other elements unchanged, may affect the project or its implementation (Hoang et al., 2014). However, new research lacks merit, especially in terms of showing what works in global project management as a whole (Hoang et al., 2014).

Different organizations or their project teams often have different priorities when implementing or managing global projects (Joslin & Müller, 2015). Some organizations prioritize communications, and others focus on cultural harmony with the host nation (Joslin & Müller, 2015). No single framework exists that researchers can use to explain the core competencies required for the management of global projects; that depends on what the goals are and the time the teams have to succeed (Joslin & Müller, 2015). Joslin

and Müller (2015) stated that project success is influenced by competences and quality of teamwork, but also project scope, cost, and time management.

Similar to other models aspiring to contextualize or explain global project management, the major challenge to researchers has been overgeneralization, as not every core competency or recommendation suits the needs for every project team (Joslin & Müller, 2015). Some teams require more core competencies than others do (Joslin & Müller, 2015). The order followed and priorities given to different elements or core competencies also varies from organization to organization and project team to project team, depending on the corporate cultures of the organizations concerned (Joslin & Müller, 2015). Perceptions of success and the related importance of success dimensions also differ by individual personality, nationality, project type, and contract type (Joslin & Müller, 2015).

Tong, Umesh, Johnson, and Lee (2016) stated that the nature and type of available technology is a major determinant for recommendations that organizations or project teams actually implement. Flexibility allows specific project teams to determine which recommendations, regarding best practices, are worth applying or implementing (Tong et al., 2016). The management of organizations makes these choices based on the unique organizational characteristics that the business or its project teams find themselves (Tong et al., 2016). These include different time zones, cultures, countries, and languages (Tong et al., 2016).

In addition to organizational characteristics, such as time zones, cultures, countries, and languages (Tong et al., 2016), Papke-Shields and Boyer-Wright (2017)

stated that global project teams require specific competencies to attain their set objectives. These skills include people skills, interpersonal relationships, and leadership styles (Papke-Shields & Boyer-Wright, 2017). Organizations should provide mechanisms to ensure that novel communication techniques permit the management of project team members, as well as other stakeholders, over a distance (Papke-Shields & Boyer-Wright, 2017).

Various forms of organizational standards and project structures ensure that coping among globally distributed project teams exists. With organizational standards and project structures in place, the organizational culture serves as the foundation for selecting and implementing collaborative tools, such as communications, software, and hardware (Papke-Shields & Boyer-Wright, 2017). Furthermore, new systems, procedures, and techniques need to remain available to all those involved in global projects. This strategy increases the adoption of the new set of tools (Papke-Shields & Boyer-Wright, 2017). Similar to most scholars who attempted to contextualize the core competences required in global project management, Papke-Shields and Boyer-Wright (2017) highlighted the various core competencies and practices that help drive global projects. However, Papke-Shields and Boyer-Wright (2017) failed to contextualize the outcomes of projects when, and if, such core competencies do not exist. In essence, Papke-Shields and Boyer-Wright (2017) focused on the ideal picture, rather than the real one.

Failure of Large Projects

A topic that elicited the most interest in both scholarly and media circles was the tendency for failure of large-scale projects (Turner et al., 2013). A trend exists that the

larger an organization or a project becomes, the higher the chances are that larger risks accrue (Turner et al., 2013). Larger projects, unlike smaller ones, have a higher risk exposure rate and require more effective project management approaches (Eik-Andersen, Landmark, & Johansen, 2015; Turner et al., 2013).

When the particular projects exist in an unfamiliar area, the projects face a higher chance of failure or delay (Luftman et al., 2015). If neither happens, then the project's allocated budget will rise significantly (Luftman et al., 2015). IT projects, regardless of the exact location in which organizations implement them, fall into the latter category (Pollack & Algeo, 2014). Despite being a relatively new development in the world, IT makes projects susceptible to failure, as countries with strong IT systems are also at risk for IT project failure (Pollack & Algeo, 2014). An examination of a common IT project that failed may provide the background for analyzing other projects and their failures (Aarseth, Rolstadås, & Andersen, 2013; Pollack & Algeo, 2014).

The Obamacare website is a prime example of the failure of megaprojects. Ditmore (2013) argued that the Obamacare website problems demonstrate much about large-scale project management and execution. In the case of healthcare.gov, it was impossible for anyone to log in shortly after the website's launch (Ditmore, 2013). The fact the website took three years to build and cost taxpayers between US$300 million and US$500 million makes the website a costly failure (Ditmore, 2013).

Ditmore (2013) further stated that large IT projects face more risk of failure than small IT projects. Ditmore (2013) asserted that as many as 17% of all IT projects, with a budget equal to US$15 million or above, experience such failure that they threaten the

existence of the companies that implement the projects. Of those IT projects that do not threaten a company, a massive 40% failure occurs (Ditmore, 2013).

The failure of IT projects does not reflect a recent trend. Failure and risks of failure of IT projects exist in the past, which may derive from the lack of clear knowledge of IT project management or the lack of such skills at the time (Whitney & Daniels, 2013). For instance, landmark research carried out in 1995 by the Standish Group revealed that the rate of projects considered fully successful was only 17% (Ditmore, 2013). Of the remaining projects, the Group classified 52% as *challenged*; they did not meet at least one of the project constraints—time goals, budget, and quality (Ditmore, 2013). Of the remaining 31%, the group classified 30% as *impaired* or *failed* (Ditmore, 2013). In an update of the same study, undertaken for *Computerworld*, Ditmore (2013) reviewed 3,555 IT projects between 2003 and 2012. These projects included those whose labor costs equaled at least US$10. Ditmore (2013) found that only 6.4% of these projects succeeded. The analysis by Ditmore (2013) provided critical insights into IT projects and their high rate of failure.

Wang (2013) delved into the exact causes of IT project failure. The results showed that the leading causes of IT project failure in the United States and Canada are poor project planning, weak business cases, and a lack of or inadequate involvement and support of senior management (Wang, 2013). Regarding poor project planning, Wang (2013) believed that the most important aspect of IT projects involves risk management. Therefore, inadequate risk management, combined with a weak project plan, leads to the failure of IT projects (Wang, 2013).

Durst, Bruns, and Henschel (2016) stated that risk management remains a key factor within organizations because risk management can minimize the probability and effect of IT project threats and capture the opportunities that could occur during the IT project life cycle. Durst et al.'s (2016) assertions supported those posited by Fang, Marle, Xie, and Zio (2013), who indicated that every system needs to justify the use of methods directly related to the business needs of the organization.

Fang et al.'s (2013) arguments existed in unison with the findings of Martinsuo (2013), who argued that senior management must be involved in projects. The IT projects that begin without the involvement and support of senior management may fail even before the managers start (Martinsuo, 2013). To avoid IT project failure, it is critical for PMs to secure buy-in from management in the form of a strong business case supported by a realistic project plan (Winch, 2014).

Chen and Zhang (2014) argued that, by their unique nature, IT projects include the susceptibility to many challenges. Chen and Zhang added that IT projects tend to be delicate and full of risks, resulting in the realization of many unanticipated outcomes (Chen & Zhang, 2014). Mithas, Tafti, and Mitchell (2013) believed that a large percentage of IT projects do not see completion because of unforeseen issues. Instead, managers cancel the projects before the completion stage (Mithas et al., 2013). The few that happen to proceed to the end do so at exorbitant costs, often costing more than initially planned (Mithas et al., 2013).

The Role of Risk Management in Project Management

Research established that one of the main causes of IT project failure includes exposure to risk (Ika & Hodgson, 2014; Kardes, Ozturk, Cavusgil, & Cavusgil, 2013). Effective risk management could substantially reduce the high rates of project failure (Hornstein, 2015). The question—whether risk management contributes to IT project success—is relevant to both practitioners and academics and has been since the 1970s (Brady & Davies, 2014).

Carvalho and Rebechini Junior (2015) studied the support and opposition to the claim that risk management includes positive contributions towards the success of IT projects and the validity of risk management assumptions. Carvalho and Rebechini Junior (2015) discovered a multitude of research and knowledge on the factors that contribute to IT project failure. However, limited empirical evidence exists showing the application of the vast knowledge available to the risk management of IT projects (Carvalho & Rebechini Junior, 2015).

During the 1990s, organizations invested time and money in software management that lacked the ability to transition from 1999 to 2000 (Stingl & Geraldi, 2017). Despite this undertaking, many systems and computers made the transition without significant failures (Stingl & Geraldi, 2017). The situation resulted in many debates about whether the investments in risk management were justified or necessary (Stingl & Geraldi, 2017). This demonstrated the difficulty in determining whether managing risks enhances IT project success (Al Ariss, Cascio, & Paauwe, 2014).

In terms of the difficulty of risk management, Zheng, Liao, and Liu (2014) stated that a common assumption derives from when managers know management of risk must focus on priorities first. Zheng et al. (2014) added that when managing risk, especially the risk that poses the most threat to the project, enhancement of the project's chances of succeeding occurs. This outcome is why organizations generally assume that effective risk management results in project success, and researchers refer to this viewpoint as the evaluation approach (Zheng et al., 2014).

Consequently, when virtual teams work together, individuals find it desirable to supplement the leader behaviors mitigated by distance, electronic media, and cultural differences (Hoch & Kozlowski, 2014). Many instances exist in which, despite knowing about potential project risks, managers did nothing to manage those risks (Savolainen, Ahonen, & Richardson, 2015). This outcome derives from the lack of appropriate resources, inadequate time to make necessary changes to the projects, and concerns that interventions in the project will delay or undermine project quality (Savolainen et al., 2015). The results indicated that to enhance project success, PM leadership needs to develop a project-centered culture in the organization, open new avenues for partnerships, enhance relationships between internal and external customers, and use PM methodologies to drive positive change (Mir & Pinnington, 2014). Risk management does not necessarily contribute to project success (Beringer et al., 2013). Even the management of risk approach does not provide assurances of risk management; therefore, available evidence that risk management helps reduce project failure remains largely anecdotal and lacks credible empirical support (Beringer et al., 2013).

The Cultural Aspects of Global Projects

A multitude of research exists regarding the susceptibility of IT projects to the risk of failure (Trivellas & Drimoussis, 2013; Turner et al., 2013). If domestic projects include challenges, global ones remain more challenging (Durst et al., 2016; Eskerod & Huemann, 2013; Turkulainen, Ruuska, Brady, & Artto, 2015). Cultural and time challenges affect projects with a global outlook, in addition to other questions that affect local or regional projects (Turkulainen et al., 2015).

The internationalization of companies across the world brought a new reality to project management (Rodrigues & Sbragia, 2013). A significantly large number of projects may become global, which entails managing multicultural teams (Rodrigues & Sbragia, 2013). Rodrigues and Sbragia (2013) investigated six cases of Brazilian multinational companies to explore the relationship between management teams and cultural characteristics in Brazilian multinational companies. Rodrigues and Sbragia's (2013) goal was to deepen the understanding of global management, especially regarding the planning, deployment, development, and management of HR.

Rodrigues and Sbragia (2013) found that little concern existed regarding the specific issues of culture, such as multiculturalism. Furthermore, little to no intercultural incentive existed for the development of team members (Rodrigues & Sbragia, 2013). Rodrigues and Sbragia (2013) concluded a significant hindrance occurred in the process of constructing a global mindset that would have otherwise been important for the success of the relevant companies in their global operations. Rodrigues and Sbragia (2013) brought to the forefront a major point that researchers ignored, that team

management is important across borders, whether or not the team continues to work on projects. Similar to Rodrigues and Sbragia's (2013) study, Niazi, Mahmood, Alshayeb, and Hroub (2015) found that even though synchronous communication tools, such as instant messages, voice calls and videoconferencing, help in bridging the gap between distributed teams, these tools present several challenges because of people's accents, the time and cultural differences.

In a separate study, Klitmøller and Lauring (2013) believed the language aspect might hint at a major cause for project failure. Language issues are common with global projects because the projects involve working with project teams who speak different languages or variations of languages (Klitmøller & Lauring, 2013). In this case, effective project management requires the explanation of any language differences to the team members before the project commences (Klitmøller & Lauring, 2013). Organizational leaders cannot assume that every team member will understand one another even when workers are using the same language (Klitmøller & Lauring, 2013).

Even in closely related nations that share a language, such as the United States and the United Kingdom, variations in each language can cause misunderstandings among project team members from the two different nations (Dorfman, Javidan, Hanges, Dastmalchian, & House, 2013). If such differences occur as noticeable within the same language, then the differences may seem more pronounced for team members who use different languages. Management must specify a common working language for use at the start of the project (Dorfman et al., 2013).

National and cultural interpretations of time also exist (Mueller, 2015). Although some individuals value time, others simply regard time as another normal aspect (Mueller, 2015). Differences in perceptions of time between people working on the same project can affect the terms of project timelines and milestones (Mueller, 2015). Those who value punctuality will stick to timelines, but those who do not may disregard the timeframe (Mueller, 2015). To avoid this confusion and conflict in values, the PM has to inform every team member that time will be valued during the project (Mueller, 2015). This strategy derives from every project's timeline (Buganza, Kalchschmidt, Bartezzaghi, & Amabile, 2013).

Working with overseas project teams also entails encountering differences in terms of roles and responsibilities (Scott & Lock, 2013). Different countries and organizations may have preferences for different management structures and styles, with some countries preferring management styles organized into hierarchies with clear command structures (the top-down approach; Scott & Lock, 2013). Other countries follow more informal management structures, where every team member receives equal treatment (Scott & Lock, 2013). Unless the management clarifies such differences at the start of the project and adopts a common approach to the management and execution of duties, the confusion can lead to delays (Huang, Li, Tsai, Chung, & Hsu, 2014).

Söderlund and Müller (2014) posited the importance for the PM of selecting the tools, as well as the timing of their use carefully. For example, common practice exists for communications between project team members to take place through Skype because the members reside in different locations across the globe (Söderlund & Müller, 2014).

However, Skype will only be beneficial in cases where the time difference is less than 10 hours (Söderlund & Müller, 2014). According to Söderlund and Müller (2014), it is challenging to speak to someone through Skype when that person lives in a location 12 hours ahead or behind.

To overcome the challenge of teams separated by time zones, PMs have to ensure that they use communication tools that can synchronize time, such as wikis and blogs (Verner, Brereton, Kitchenham, Turner, & Niazi, 2014). During meetings or conferences, organizations can make recordings, which can be available to other team members later (Verner et al., 2014). Trivellas and Drimoussis (2013) asserted that virtual teams stand among the most difficult to handle. Unlike teams working in close proximity to each other, virtual project teams require constant monitoring and commitment (Trivellas & Drimoussis, 2013). Almost every aspect of dealing with virtual teams requires a careful approach, which is a challenge the PM has to anticipate and respond to appropriately (Locatelli, Mancini, & Romano, 2014).

Gonzalez et al. (2013) believed that the increase in both offshore outsourcing and offshoring necessitates debate on the efficacy and preparedness of teams to handle challenging processes involved in cross-border management. In agreement with Rodrigues and Sbragia (2013), Gonzalez et al. (2013) stated that although offshore outsourcing may differ in principle from offshoring, the two face the same challenges associated with operating in foreign territory. As long as an aspect of managing people located in a country different from one's own exists, then the challenges associated with internationalization apply (Gonzalez et al., 2013). The major challenges those individuals

identify relate to differences in geographical location and cultural distance (Gonzalez et al., 2013).

Holzmann (2013) noted that as long as clients and providers are culturally and geographically distant because of international location, then clients and providers must face unique challenges that other clients and providers located in the same country do not face. The challenges derive from (a) different time zones, (b) different legislations, and (c) security and privacy issues (Holzmann, 2013). Therefore, global PMs only decide to venture into global projects if PMs feel sure the incentives justify the risks (i.e., benefits exceed costs; Holzmann, 2013).

Management of Mega Projects

Mega projects are among the most widely covered projects in the literature pertaining to project management (Flyvbjerg, 2014; Kennedy, 2015; Olaniran, Love, Edwards, Olatunji, & Matthews, 2015; Petter, Randolph, DeJong, & Robinson, 2016). Even in the case of domestic scenarios, large-scale projects seem more difficult to implement and harder to manage (Flyvbjerg, 2014). This result calls for increased efforts on the part of PMs, especially regarding mega projects (Hu, Chan, & Le, 2012). The large scale of these projects makes their implementation a daunting task that requires the collaborative works of all concerned (Olaniran et al., 2015). When executed on a global scale, challenges increase to implement these projects successfully (Flyvbjerg, 2014). In light of these issues, Kardes et al. (2013) opined that managers of mega projects have to take aspects of complexity and risk into consideration. Risk and complexity management refer to important aspects of global mega project management (Kardes et al., 2013). By

their nature, mega projects present as complex and require much in terms of time input, materials, technology, labor, and finances (Kennedy, 2015).

The many requirements also call for stringent management, proving the assertion that mega project management is far from easy and simple (Petter et al., 2016). The complexity of mega projects also makes them more susceptible to risks (Petter et al., 2016). Using risk management seems advisable, but it may be even more prudent for PMs to use both risk management and complexity reduction approaches (Kardes et al., 2013). Hu et al. (2012) devised an organizational framework, specifically for mega project management in the construction industry. Hu et al. (2012), undertaking the research from a client's perspective, argued that the size of mega-construction industry projects made them susceptible to failure. The high failure rates of such projects may derive from poor performance problems, including safety incidents, cost overruns, poor environmental and sustainable performance, and functional or quality defects (Hu et al., 2012).

Hu et al. (2012) argued that effective program management is the key to reducing the failure rate of mega projects in the construction industry. Hu et al. (2012) used an extensive literature review of more than 100 journal articles and books published in the past decade, together with primary research through interviews. Subsequently, Hu et al. (2012) developed a conceptual framework of program organization that includes 22 different factors grouped into three broad categories: (a) program organizational motivation, (b) program organizational capacity, and (c) program organizational

environment. These strategies represent the necessary core competencies in support of the megaproject management (Hu et al., 2012).

Organizations use tools to breakdown the project's structure, program HR management, matrix organizational structure, program governance, program scope management, and program leadership to achieve project goals, such as meeting project deadlines and budgets (Hu et al., 2012). The application of these factors depends on the exact needs of the organization, as well as on the goals of the project and its team members (Hu et al., 2012). Hu et al. (2012) made significant contributions to the body of knowledge on the subject of project management, particularly concerning large-scale projects. Hu et al.'s (2012) research remains distinct from similar project management studies because of the development of concepts from the viewpoint of the client.

A project must meet the requirements of the client (Laine, Korhonen, & Martinsuo, 2016). Failure to do this in terms of quality, time, and other project requirements can result in the lack of success of the overall project (Laine et al., 2016). Working on a project that management will reject represents wasted effort (Laine et al., 2016). Such rejection is an indicator of failure on the part of the project implementers to adhere to one or more of the critical requirements (Guo, Yu, & Skitmore, 2017). Understanding the client's requirements is critical for global IT projects, particularly within megaprojects (Eik-Andresen et al., 2015). It ensures project management best practices derive from or are at least considerate of, clients' perceptions and expectations (Eik-Andresen et al., 2015). Because organizations implement projects for the sole

purpose of meeting the requirements of the clients, it is imperative to meet these requirements fully (Eik-Andresen et al., 2015).

Transition

From the critical review of the literature, a significant amount of research exists regarding global project management. Furthermore, a large amount of literature occurs within the industry, both scholarly and seminal, on the management of global IT projects. However, a notable gap in the literature exists in terms of the lack of empirical evidence on the core competencies of global IT and other projects. Whatever empirical data exists may pertain to the core competencies in project management, and have little or nothing to do with global IT projects. Because the study included analysis of the core competencies of projects in the IT sector that are global in nature, it follows that significant gaps exist in the body of knowledge justifying the need for this study.

Within Section 2, I provided an overview of the project, including a presentation of the methodological aspects of the study. These aspects include the role of the researcher, the participants within the study, the research method, and research design. Additionally, Section 2 contained the population and sampling techniques, instrumentation, data collection processes, and the data analysis. In Section 3, I included the presentation of the study findings, the application to professional practice, implications for social changes, recommendations for action and further research, reflections, and the conclusion of the study.

Section 2: The Project

Purpose Statement

The purpose of this qualitative multiple case study was to explore the core competencies and business strategies that IT PMs use to meet global IT project deadlines and budgets. The targeted population consisted of five IT PMs from the Pacific Northwest who had increased the quality of outsourced IT projects. The study's implications for positive social change include the potential to help companies contribute to CSR efforts through improvements in the fields of ethical standards and international norms. This study also has the potential to provide positive social change for individuals, communities, and society by assisting researchers in understanding how people from different cultures and nations adopt new and existing technologies, which could benefit social development.

Role of the Researcher

I have extensive expertise in the profession of IT project management, with more than 20 years of experience managing numerous global projects. My role in this study was to identify any potential biases that exist, use bracketing, and conduct ethical interviews to extract details pertinent to the topic to achieve saturation. The main challenge I faced was setting aside my preconceived ideas and thoughts based upon my personal experiences with the topic under study. According to Baškarada (2014), because researchers usually start case studies with some preconceived ideas, as already noted, in order to minimize any potential bias, it is important to identify and test any rival explanations. Prior to initiating interviews, I took time to reflect upon my preconceived

notions and biases regarding the subject under study. The interview questions are found in the interview protocol in Appendix A. I recorded these ideas in my field notes. Lippke and Tanggaard (2014) stated that the only instrument that is sufficiently complex to comprehend and learn about human existence is another human. Yin (2014) stated that a good case study researcher, like any other social scientist, strives for the highest ethical standards while conducting research. I followed the guidelines of the Belmont Report (National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 2003). In adherence to these guidelines, I gave participants a full description of the research and what it would involve. I also obtained informed consent based on participants' understanding of the nature of the research and willingness to participate.

Bias may occur because different researchers tend to have different perceptions regarding the meaning and application of the findings (Sharma, 2013). Therefore, generalizing results from this study and applying them to the whole industry or sector may present the risk of bias. As the phenomena of interest were the core competencies and business strategies of IT PMs, I selected a diverse sample to ensure unbiased results rather than focusing on a single business interest. Irvine, Drew, and Sainsbury (2013) stated that it is important to use active listening skills when conducting interviews. I exercised caution to ensure that I did not allow bias to enter any questions I asked, and I ensured that I listened to the participants' feedback. I also made certain that no motivation existed to commit perjury or express bias. Because researchers usually start case studies with some preconceived ideas, as already noted, in order to minimize any

potential bias it is important to identify and test any rival explanations (Baškarada, 2014). In addition, I employed an interview protocol to ensure that all participants were asked the same questions in the same manner. Castillo-Montoya (2016) stated that by enhancing the reliability of interview protocols, researchers can increase the quality of data they obtain from research interviews. This helps to mitigate biases and ensure that all participants are able to respond to the same questions. Guba and Lincoln (1982) remarked that member checking is essential to ensure credibility and to assure that the results of a study accurately reflect the experiences of the participants. I employed the use of member checking to ensure that the results of this study accurately reflected the experiences of the participants. In this way, any unconscious biases that existed could be compensated for as the participants were able to review the findings and provide commentary and correction if necessary. Potential limitations to this study included difficulty accessing potential participants and undetected personal biases. The use of member checking and selection of a diverse sample aided in prevention of these limitations.

Participants

When selecting participants for a study, it is ideal to select participants who have deep experience with the phenomenon under study to elicit thick and rich detail (Klotz, Veiga, Buckley, & Gavin, 2013; Robinson, 2014; Yin, 2014). Qualitative researchers seek to identify participants who can offer dense information to aid in discovering, understanding, and gaining insight into research questions (Merriam & Tisdell, 2016).

Yin (2014) recommended selecting individuals with experience of the phenomenon under study when using a case study design. Before beginning the recruitment process, I received IRB approval to conduct the study. I recruited participants from three different companies who have successfully increased the quality of IT projects. I identified potential participants through recommendations provided by the LinkedIn social networking service website via the Project Management Institute (PMI) LinkedIn group. At this stage, the PMI LinkedIn group identified project managers and provided me with their contact information. I reached out to these individuals to ensure that they met the criteria before inviting them to participate in the study. I selected at least one PM per company. The PMs who participated in this study had experience in implementing IT projects within budget and on time while ensuring that their projects met customers' expectations. Each case study participant occupied the role of PM or an equivalent role and possessed a 4-year degree from a university or college or Project Management Professional (PMP) certification. A further criterion for participation was that the participant must have been at the company for longer than 5 years (to ensure that the participant had overseen projects from start to finish).

Braun and Clarke (2013) suggested using letters and emails to contact potential participants. Following this recommendation, I sent a letter to all available email addresses given to me by the PMI LinkedIn group to solicit potential participants who fulfilled the aforementioned criteria. Merriam and Tisdell (2016) recommended the use of a simple questionnaire. I ensured that participants fulfilled the inclusion criteria. After identifying prospective participants, I contacted each individual via telephone to schedule

an interview session at a time and location convenient for the participant. Merriam and Tisdell (2016) wrote about the importance of establishing a relationship with participants before beginning the interview process. During this telephone conversation, I spent time speaking with the participant and introducing myself. I answered questions and explained the purpose of the study and the importance of the participant's contributions in order to better establish a working relationship.

Research Method and Design

Research Method

Yin (2014) stated that when one is considering a specific research methodology, it is essential to consider data collection and analysis in qualitative and quantitative design. Qualitative research is inductive in nature and focuses on experiences that construct reality and meaning for a situation (Merriam & Tisdell, 2016). Tracy (2013) acknowledged that qualitative research has several inherent strengths: (a) it employs information that has rich detail, (b) it explores phenomena in a holistic manner, and (c) it enables experiences to be the unit of measure. Yin indicated that three factors support the use of qualitative methods: (a) lack of existing information on the topic under investigation, (b) unknown variables in the situation, and (c) lack of detail in any supportive theory. The aim of researchers using qualitative methods is to understand participants' reality, experience, and perspective (Merriam & Tisdell, 2016).

Researchers use quantitative methodologies when (a) employing a statistical measure, (b) seeking to prove or disprove a hypothesis, or (c) attempting to find correlations or relationships (Bloomberg & Volpe, 2015). I deemed the use of a

quantitative method inappropriate, as the ultimate goal of this study was not to prove or disprove any hypotheses. Mixed methods studies generally employ two types of data, qualitative and quantitative (Crosbie & Ottmann, 2013; Heyvaert, Maes, & Onghena, 2013). Generally, in mixed method studies, one type of data carries more weight compared to the other, with the secondary collection method used to support the primary data (Crosbie & Otterman, 2013). The data collected during the course of the study included interviews, documents, and field notes. I explored and parsed the information to uncover categories, themes, and subthemes (Merriam & Tisdell, 2016). I did not collect statistical data, as the focus of this study was the perceptions of IT PMs. As a result, I rejected mixed methods as a research design.

Researchers use qualitative research as a naturalistic approach to understanding phenomena in context-specific settings, such as real environments where the researcher cannot manipulate the phenomenon of importance (Merriam & Tisdell, 2016). Strengths of qualitative studies include (a) the power to warrant generalization, (b) their success in transforming researcher-subject interactions into resources for improving substantive explanations, (c) the constraint they place on bias, (d) arbitrariness in data interpretation, and (e) their promotion of the retesting of findings (J. Katz, 2015). By adopting a qualitative methodology, a researcher can use a naturalistic approach to explore a phenomenon in context-specific settings (Merriam & Tisdell, 2016).

Research Design

Case studies are effective when addressing *how* or *why* questions, when the behavior of participants is not under the control of the researcher, and when the

participants cannot be separated from their context (Hyett, Kenny, & Dickson-Swift, 2014; Yin, 2014). Case studies involve the examination of phenomena in depth, using flexible data collection sources, which allows for a deeper and more thorough analysis of a particular case (Stake, 2010; Yin, 2014). Yin (2014) stated that a research design should include five components. Defining the first three components—the study's (a) questions, (b) propositions, and (c) unit of analysis—as well as the last two components—(d) the logic linking the data to the propositions and (e) the criteria for interpreting the findings—lead into anticipating the case study analysis, suggesting what is to be done after the data have been collected. The use of a case study design enables a researcher to examine an object or process embedded within a context or setting (Stake, 2013). By creating a bounded case with specific definitions, qualitative researchers are able to focus on real-world issues connected to a specific case (Morse & McElvoy, 2014; Stake, 2013).

Before selecting a case study design, I considered the use of ethnography and phenomenology for this research study. A culture or group with norms is the subject of an ethnographic study (Hampshire, 2014). Researchers who employ this technique seek to understand (a) rituals, (b) group norms, (c) how language is used, and (d) relationships, both for individuals and within the group (Tracy, 2013). They use stories and narratives to gather data (Mears, 2013). A central issue in ethnographic methodology is the reflexivity between the researcher and the research being produced. This stems from a tradition in which ethnographic research requires the researcher to be actively involved in social action. This involvement of the researcher in the field has an unavoidable impact on the practices being studied (Jansson & Nikolaidou, 2013). Ethnographers often

employ multiple roles that include participant, observer, and researcher (Lopez-Dicastillo & Belintxon, 2014; Merriam & Tisdell, 2016). Because I was not seeking to understand a culture and did not plan to spend extensive time in the field observing the daily tasks of the participants, this method was not appropriate for my study.

Researchers use phenomenological studies to understand the lived experiences of individuals who have experienced a specific phenomenon (Converse, 2012; Moustakas, 1994; Sloan & Bowe, 2014). Researchers who use this method seek to uncover information about individuals' perspectives, perceptions, and understandings of a specific situation (Davidsen, 2013; Pietkiewicz & Smith, 2014). Sousa (2014) stated that in a descriptive-based phenomenological methodology, the focus of the research is to describe, understand, and clarify human experiences; this means that the participants should be chosen because they can offer fertile examples of the theme under study. As I was attempting to conduct an evaluation of a process instead of analyzing individual experiences, using phenomenology would not have produced results in line with the purpose of this study.

Several types of case studies exist, including intrinsic, instrumental, and collective (Cronin, 2014; Stake, 2010). Stake (2010) recommended the use of an instrumental case study when the case provides insight into an issue or redraws a generalization. The focus of this study was the core competencies and business strategies of successful IT PMs. The unit of analysis represented the perceptions and experiences of the individual PMs. I studied five cases to investigate and better understand the phenomenon, making this

study a multiple (or collective) case study. This study was also instrumental, given that the aim of this research was to explore the experiences of IT PMs in managing projects.

Yin (2014) described the multiple case design as more robust compared to a single-case design, and Merriam and Tisdell (2016) suggested that including multiple cases makes the findings and interpretations more compelling. Researchers who employ case study designs use methods consisting of systematic but flexible guidelines for collecting and analyzing data to construct abstractions in order to better understand the *how* and *why* of the case under study (De Massis & Kotlar, 2014; S. Katz, 2015). Because of these factors, I decided that multiple case study was the most appropriate design to employ to gather the data to answer the research questions.

Data saturation refers to the point in data collection when no new additional data add to or expand the development of aspects of a conceptual category (Glaser & Strauss, 1967; Morse, 2015a). Merriam and Tisdell (2016) stated that to ensure saturation, researchers should collect data in large enough amounts so that they begin to hear patterns and similarities in experiences across the interviews, noting that researchers should constantly be exploring the data to assure saturation. In this study, I ensured data saturation by gathering multiple sources of evidence, using careful interview practices to collect a plethora of data with details to compare across cases. In addition, I checked and rechecked the data during the analysis process to ascertain the level of saturation. Houghton et al. (2015) stated that lack of any new emerging data is evidence that saturation has been achieved. I knew that I had achieved saturation when I began to hear similar comments from the participants and no new information arose from the

interviews. Data saturation occurs when themes are robust and complete and no new themes emerge from the data (Merriam & Tisdell, 2016; Walker, 2012). Because this was a case study, I used multiple forms of data to aid in increasing the level of data saturation, including a variety of information aids in the creation of thick and rich data (Baker & Edwards, 2012; Burmeister & Aitken, 2012; Fusch & Ness, 2015). Burmeister and Aitken (2012) referred to the importance of the depth of data, rather than the numbers of participants involved in a study.

Population and Sampling

Stake (2013) suggested that the number of participants required for a study depends on the purpose of the inquiry. As general guidance, Stake suggested between four and 10 participants as suitable. Yin (2014) did not state a fixed number of participants, indicating that it is more important to have participants who can provide data that are thick and rich than to have a plethora of respondents. Mason (2010) indicated that it is necessary to have a sample large enough to uncover important experiences; however, if the sample becomes too large, the information gathered can become repetitive and unnecessary. Based on this information, I chose to use at least two companies with one to three participants per company for a total of five participants, to enable as much in-depth focus on the individual case and its context as possible. I sent a recruitment email (see Appendix B) and flyer (see Appendix C) to potential participants identified by the PMI LinkedIn group at these companies. The recruitment email contained both my email and phone number, and the flyer had tear-off sections with this contact information so that participants could conveniently contact me.

The ultimate goal when conducting a case study is to explain, describe, and interpret results, rather than generalize from a sample to a population (Cleary, Horsfall, & Hayter, 2014; Stake, 2013; Yin, 2014), Because of this goal, I chose a purposeful sampling method as the most appropriate way to locate participants. The main criteria for finding participants is their ability and expertise to speak about the phenomenon under study with a high level of detail and relevance as the goal of participant selection is thick and rich data (Merriam & Tisdell, 2016; Tracy, 2013).

There are three main criteria for selecting cases and the participants in each case (Robinson, 2014; Stake, 2013). The criteria include (a) the relevance of the case to the broader phenomena studied, (b) whether the case includes diversity across contexts, and (c) if the case provides a good opportunity to learn about complexity and context (Yin, 2014). The goal of this study was to explore five IT PMs' perceptions regarding the core competencies and business strategies necessary for managing global IT projects.

In addition to purposive sampling, using maximum variation sampling, the aim is to describe the central themes or principal outcomes and include as much variation as possible (Acharya, Prakash, Saxena, & Nigam, 2013; Tracy, 2013). I applied this sampling method to avoid bias towards a particular industry. Based on the selection criteria, participants must (a) be a PM, (b) work for a company located in the Pacific Northwest.

Ethical Research

I sought the approval of the Internal Review Board (IRB) before starting the data collection process. Walden's IRB approval number for the study was 06-19-17-0010725.

I used the Walden IRB informed consent form and distribute them to each participant. The form contains an outline of the study, the planned use of the information, ways the participants can withdraw from the study, and the researcher's contact information. Participants were also informed that there are no incentives being offered for participation in this study. Merriam and Tisdell (2016) stated that protecting the confidentiality of participants should be of primary concern to a researcher. To maintain confidentiality, all participants and companies include identification by an alphanumeric code. I protected data and documents by storing all files in a single locked filing cabinet. For the electronic data, I am storing all files in a folder with password-protection on a computer that only I have access. Yardley, Watts, Pearson, and Richardson (2014) stated that trust, sharing the data, transparency and clarity, and anonymity and responsibility were important aspects of this relationship. I will destroy all files 5 years after the date of the approval of this research.

Janghorban, Roudsari, and Taghipour (2014) recommended qualitative researchers inform their participants that their participation in the study is at will and voluntary. Thus, if a participant has the desire to withdraw from the study, they can do so at any time and for any reason, with no fear of repercussions. The participant needs to inform me of their desire to leave the study in person or by email, the data gathered from that individual will not be used in the data analysis process and will be destroyed (Hadidi, Lindquist, Treat-Jacobson, & Swanson, 2013; Reardon, Basin, & Capkun, 2014; Shaw, 2008).

Data Collection Instruments

The primary instrument for any qualitative research investigation is the researcher (Braun & Clarke, 2013). In qualitative studies, researchers are an instrument that all data will flow through (Tracy, 2013). It is the job of a qualitative researcher to be able to observe, collect, record, organize, and analyze the data (Tracy, 2013). Qualitative researchers must also be reflexive, and aware of all biases, thoughts, and opinions, which aids in ensuring the data collection occurs with personal biases placed to the side (Merriam & Tisdell, 2016).

I selected to use a semistructured open-ended interview for data gathering in this study. Using McNamara's (2009) design principals, I created the interview protocol (see Appendix A). Following these guidelines, all questions will be open-ended, neutral, and clearly worded. Hoskins and White (2013) indicated that questions build upon previous questions asked, so that researchers can continually circle around and draw out all details about the entire experience from the participants using probes to support the main interview questions. Merriam and Tidsdell (2016) stated that following up on answers and requesting more detail with the use of probes, such as "tell me more about that" or "how did it make you feel?," can be the cornerstone to gathering rich and varied data.

For the design, I used the interviews to explore how IT PMs describe the core competencies and business strategies necessary to manage global IT projects effectively. Wilson, Onwuegbuzie, and Manning (2016) stated that the use of interviews is an effective and a commonly used method of data collection in qualitative studies. I developed an interview guide after an initial review of the literature to standardize the

interview questions (see Appendix A). The interviews included two themes: core competencies and business strategies. I asked participants what core competencies they perceive as the most important for successful projects and how they see these competencies reflected in business strategies. These questions probed what factors encourage and impede competencies as operationalized in individual projects.

I employed member checking to increase the validity of the study and data saturation (Fusch & Ness, 2015; Guba & Lincoln, 1982). Member checking involved the provision of a summary of my interpreted interview data to the participant and recording their response to incorporate into the next analysis stage. Merriam and Tisdell (2016) stated that using further questions or probes may be necessary to clarify or add depth to participant responses. Thus, at this time, follow up questions were asked, as necessary, for clarification of participant responses.

Woolcock (2013) stated that case study researchers seek to document and explain the processes by which, and the conditions under which, certain outcomes are obtained. Yin (2014) argued the most important use of documents is to corroborate and augment evidence from other sources, particularly interviews. For this case study, the documentation included policy documents, website information, and specific program information.

Data Collection Technique

Prior to commencing the study and after receiving IRB approval, I sent a recruitment email (see Appendix B) and flyer (see Appendix C) to potential participants identified by PMI LinkedIn group. The recruitment email contained both my email and

phone number, and the flyer contained tear-off sections with this contact information so that participants can conveniently contact me. Tracy (2013) indicated that it was essential for researchers to be systematic in participant recruiting and should (a) ensure participants understood parameters of the study, (b) had the required amount of time necessary to participate, (c) meet selection criteria, (d) had an opportunity to ask questions, and (e) sign the informed consent. Once a potential participant had contacted me, I assessed the individual to ensure they meet the selection criteria. I screened each candidate with a brief phone conversation verifying his or her credentials and motivation. I answered any questions or concerns the participants had. I then scheduled face-to-face interviews. Once it had been determined that they meet the criteria, I sent a follow up email containing a copy of the consent form describing the study. Seitz (2016) stated that using Skype is an effective method to use in order to reach distant participants when conducting interviews. I used my private home office for the Skype interviews and the participant selected their own convenient meeting space as locations for the semistructured interviews. Before the interview began, the participants signed and emailed a copy of the informed consent form to me.

I conducted the interviews using Skype. A number of features make Skype a powerful tool for completing the interviews, including the ability to record, edit, and review the interviews (Deakin & Wakefield, 2013; DeFelice & Janesick, 2015). In addition, the use of Skype enables the interviews to be secure and increases confidentiality (Janghorban et al., 2014). Other valuable features of Skype include a chat function, which works like an instant messenger (IM) program and enables the researcher

to share consent forms and other paperwork associated with the study (DeFelice & Janesick, 2015).

Additionally, DeFelice and Janesick (2015) stated that Skype also had a number of add-ons available for recording purposes. I recorded audio calls with Evaer (Version 1.6.5.77), a program designed to work with Skype to provide this recording capability. In keeping with the principle that the case study needs to be an iterative process, I developed interview schedules taking into account previous data collection (Stake, 2013; Yin, 2014).

The interviews lasted approximately 45 to 60 minutes. Doody and Noonan (2013) stated that it is important to provide time for participants to ask questions. Before the interview commenced, I asked participants if they had any further questions or concerns. I reiterated the purpose of the study and informed the participants that they were free to leave the study at any time with no fear of repercussions. I reminded them that the interviews were be audio recorded using Evaer (Version 1.6.5.77), a program designed to work with Skype. At the end of the interview, I again checked with the participants to see if they had any questions. Tracy (2013) stated that to increase the credibility of a study, participants should be encouraged to review transcripts of the interview and a summary of the result to ensure accuracy. I also informed the participants that once the initial analysis was completed, they would receive a summary of the results for questions and comments.

In addition to in-depth interviews, I augmented data collected from the interview with other company data. Studying additional forms of data increases the credibility and

dependability of the results (Lincoln & Guba, 1985). I studied document and archival records data including company documents and other external sources, such as business magazines and internet websites. Case study research allows for collecting data from several data sources including interviews (Harland, 2014; Yin, 2014). Yin (2014) described triangulation as the convergence of data collected from different sources to determine the consistency of a finding. Using a multiple case study design provides triangulation, as the goal is to reduce the effect of the study on particular local factors, specific to one institution (Carter, Bryant-Lukosius, DiCenso, Blythe & Neville, 2014; Shenton, 2004). Each data source is one piece of the "puzzle," with each piece contributing to the researcher's understanding of the whole phenomenon, De Massis and Kotlar (2014) found this convergence adds strength to the findings, as the various components of data are interwoven together to promote a wide-ranging understanding of the case. I did not conduct a pilot study.

Data Organization Technique

Kaiser (2009) stated that protecting client confidentiality in qualitative studies could present a unique challenge. Qualitative studies often contain thick and rich descriptions used to identify participants (Kaiser, 2009). Potential participants should also be informed about the research timeframe, the proposed nature of their involvement, and the expected practical outcomes (Baškarada, 2014). Removing information such as name, addresses, job title, and location occurs to protect respondent identity (Hammersley, 2014). To assure participant confidentiality, I assigned each participant an identifying number ranging from 1 to 5 or greater if needed, preceded by the letter P (for participant).

I also used pseudonyms in place of company names, as well as using generic, rather than specific, job titles.

I transcribed all the data collected to electronic format in Microsoft Word file. The conversation can also be exported in plain text format into programs such as Microsoft products (Word or Excel) or a specialized qualitative data analysis program (Moylan et al., 2015). After I transcribed the audio and video interview data, I saved it for reference in case there is a need for further clarification. Braun and Clarke (2013) indicated that reviewing transcripts against the audio recording is important to assure accuracy. I assigned a reference number to every source document, ranging from interview transcripts to website screenshots. I used an Excel file to record the reference numbers. These steps are necessary, as Yin (2014) indicated that researchers who conduct case studies must create some type of organizational system to track the plethora of data collected in order to assure that essential information is tracked. I imported all sources, including transcriptions, into NVivo 11 to create codes. Using NVivo 11 enables qualitative researcher to more easily manage, organize, analyze, and report results (Zamawe, 2015). I kept a field journal detailing any decisions, thoughts, or observations that occurred while conducting the study. Tracy (2013) stated that use of a field journal enables qualitative researchers to (a) record thoughts and observation, (b) create an audit trail, and (c) bracket any biases or preconceived ideas. The information found in field journals, which could include information regarding organization of staff, scheduling, data collection, data analysis, and the data itself, is essential to the success of the project (White, Oelke, & Friesen, 2012). Following these procedures, I created an audit trail

(Anney, 2014; Baillie, 2015; Thomas & Beh, 2013). An audit trail assists in judging the dependability of the research and future replications of the case study (Guba & Lincoln, 1982; Lu & Shulman, 2008).

All interview recordings and transcriptions were stored on a password-protected flash drive in a locked storage cabinet in my home office. It is essential to preserve confidentiality to protect the dignity and rights of the participant, as well as reduce any possible harm (Gibson, Benson, & Brand, 2013). I stored any paper data, including informed consent forms under lock and key my home office. Per Walden IRB regulations, all data will be stored for a period of 5 years. I will destroy all data connected with the study at this time by shredding paper documentation and wiping the flash drive.

Data Analysis

I used methodological triangulation to ensure that developing themes have multiple sources of evidence through different data sources, participants, and different levels of analysis to ensure that the results are rich and thick (Bekhet & Zauszniewski, 2012; Denzin, 2012). Triangulation is the process by which different types of data, different types of analysis, or different theories are used to examine the data to ensure the results are trustworthy (Bekhet & Zauszniewski, 2012; Denzin, 2012). I employed member checking, transcript analysis, and an exploration of company documents. Once I completed the initial analysis, to conduct a member check, I emailed each participant a summary of results for their review and commentary to assure that the results were an accurate reflection of their experiences. This strategy ensures that data gathering and

analysis provides a thorough and complete exploration of the phenomenon under study (Houghton, Murphy, Shaw, & Casey, 2015; Merriam & Tisdell, 2016).

Many qualitative researchers use some form of coding as their primary analytic technique. Various tools for visualizing data include development to assist in the process of coding and discovering themes and patterns in the data (Moylan, Derr, & Lindhorst, 2015). I used NVivo (Version 11) qualitative software to assist in the data analysis. I imported data and audio files (to assist with transcription) of interviews and documents into source folders. I developed a timeline and overview for each PM with a description of the structure of the organization, specific projects, and a summary of outcomes. This information enabled me to better organize the collected data. Organization is essential in case study research as the plethora of gathered data can be overwhelming, which in turn can prevent qualitative researchers from finding patterns and themes (Yin, 2014). I analyzed the data by using applied thematic analysis, which is a method for identifying and analyzing patterns in qualitative data (Braun & Clarke, 2006; Braun, Clarke, & Terry, 2014). Braun and Clarke (2006) identified six stages of applied thematic analysis that include: (a) familiarization with the data, (b) coding, (c) searching for themes, (d) reviewing themes, (e) defining and naming themes, and (f) reporting.

Before beginning the analysis, I read and reread all interview transcripts and collected documentation several times to become familiar with the contents of the interviews and documents and to begin to identify patterns in the data (Braun & Clarke, 2006; Braun et al., 2014). I uploaded the documents into NVivo 11 to aid with the organization and analysis of the data. I coded each case, which included interview

transcripts, as well as documents associated with the participant, individually. Codes—keywords, phrases, mnemonics, or numbers—that signal the occurrence of specific information are assigned to segments of the text (Gläser & Laudel, 2013), are essential to aid in organization, data analysis, and reflect the meaning the researcher assigns to each chunk of text (Braun & Clarke, 2013). Once coding is complete, the coded data is explored for commonalities and relationships which lead to the creation of emergent themes (Braun & Clarke, 2013). I sorted the codes into similar groups as way to identify emergent themes.

After completing a case-by-case analysis, I undertook a cross-case analysis by comparing the results and themes of all five cases to identify common patterns and divergences among them. Cross case analysis is employed by case study researchers to compare and contrast the analyzed information for similarities and differences, which all aid in creating a picture of the phenomenon under study (Baškarada, 2014; Yin, 2014).

The next step of the analysis included member checking. Member checking is the process of the participants reviewing a summary of the interpreted data to make comments or raise concerns (Merriam & Tisdell, 2016; Tong & Dew, 2016; Tracy, 2013). If necessary, I used this opportunity to ask follow up questions and clarification points. I incorporated participants' feedback into the final data analysis. Lincoln and Guba (1985) stated that the use of participant feedback increases the credibility of the results and ensures an accurate representation of the participant's experiences. Finally, each case study was reported separately with an overview and summary with the overall analysis synthesizing the results of the cross-case analysis to be reported because Yin

(2014) stated these steps are necessary in order to thoroughly explore and report upon the results of a study.

Reliability and Validity

In this section, the goal is to address reliability and validity by using the recommendations of qualitative researchers, who offer a set of constructs suitable for qualitative research (Anney, 2014; Guba & Lincoln, 1989; Merriam & Tisdell, 2016). In qualitative research, assessment of validity and reliability occurs though examining issues of trustworthiness (Merriam & Tisdell, 2016; Morse, 2015b; Noble & Smith, 2015). Guba and Lincoln (1989) suggested the following constructs as alternatives to reliability and validity: dependability, in preference to reliability, credibility, in preference to internal validity, and transferability, in preference to external validity or generalizability.

Reliability

Dependability. Reliability in positivist research consists of the ability of different researchers to replicate the results of a study following the same procedures. Guba and Lincoln (1989) suggested that researchers should not expect stability over time in qualitative research, instead suggested dependability as a qualitative equivalent of reliability in positivist research. Houghton et al. (2015) suggested an audit trail to outline the decisions made throughout the research process to provide a rationale for the methodological and interpretative judgements of the researcher. Yin (2014) recommended maintaining a case study protocol that details each step in the research process. An audit trail includes an overview of the case study, data collection procedures, data collection questions, and a guide for transcription (Yin, 2014). I maintained a field

log that details all processes, observations, and thoughts that occur during this investigation. In addition, I employed member checking, where the participants are given a summary of the results for commentary, to increase the dependability of the results. Member checking enables a researcher to go back to the participants to assess if the interview data were accurately represented (Merriam & Tisdell, 2016).

Validity

Confirmability. Confirmability is the degree to which others can confirm a qualitative study's findings through several techniques (Leung, 2015; Loh, 2013; Merriam & Tisdell, 2016). Several of the techniques used in maintaining dependability are also important tools to bolster the study's confirmability. The audit trail that Houghton et al. (2015) suggested allows secondary researchers to follow the steps of the study, and illuminates unexpected procedures or findings encountered during the course of the research. In addition, Yin's (2014)'s recommendation to keep a case study protocol will result in a systematic description of the study procedures so that future researchers may replicate them and contribute to the study's confirmability.

Credibility. Researchers use credibility to ask whether a study measures or tests the intent (Merriam & Tisdell, 2016). Within qualitative research, the equivalent concept is credibility. Credibility refers to how consistent the findings are with reality (Merriam & Tisdell, 2016). Shenton (2004) suggested that the adoption of well-established research methods was one way of establishing credibility. To increase the credibility of the research study, I used the works of Stake (2013) and Yin (2014) to aid in the design of the study.

Shenton (2004) advocated the use of triangulation as a means of establishing credibility. I compared the interviews against each other and review any documentation collected in order to triangulate results. Guba and Lincoln (1982) recommended member checking as the single most important provision used to bolster a study's credibility and confirmability. To incorporate member checking, each participant received a summary of the emergent results to provide feedback and commentary. I incorporated all information received during this process into final presentation of findings.

In this study, I ensured the data was saturated by using multiple sources of evidence during the analysis, which included diverse types of information. Employing multiple data forms in depth data aided in increasing data saturation in this small-scale study. In addition, conducting member checks contributed to data saturation (Fusch & Ness, 2015; Guba & Lincoln, 1982).

Transferability. Transferability, the equivalent of external validity, refers to the ability of future researchers to transfer findings to other contexts (Tracy, 2013). Guba and Lincoln (1982) suggested that it is the responsibility of the researcher to provide sufficient contextual information about the fieldwork and analysis to allow readers to relate the findings to their own positions. A detailed report of the data, analysis, and analysis methods was included in this study. The running records and audit trail, described in the data organization section above, details the process I used to improve data verification.

Transition and Summary

I have provided details of the research method and design that I adopted for use in this study. I selected a qualitative approach because of the interest in examining IT PMs' perceptions of the core competencies and business strategies necessary to manage global IT projects effectively. I chose a case study approach, as it was deemed suitable for investigating *how* and *why* questions. The participants in the study work as PMs for U.S. companies who have successfully outsourced global IT projects. Each participant represented a different industry to ensure a diverse sample. Interviews and documentation made up the research data that I analyzed through thematic analysis. Section 3 includes the results of this research study.

Section 3: Application to Professional Practice and Implications for Change

Introduction

The purpose of this qualitative multiple case study was to explore the core competencies and business strategies that IT PMs use to meet global IT project deadlines and budgets. Five IT PMs who had experience implementing IT projects within budget and on time while meeting customers' expectations participated in the research study. I used interview responses from these five individuals, who represented three different companies, to address the research problem.

There were two prominent findings from the data. The first was the prevalent barriers and challenges that IT PMs faced when working. Participants identified a lack of communication as the biggest barrier and challenge faced when trying to successfully complete an IT project. In addition, language and time zone differences were other important challenges that IT PMs faced when completing IT projects. The second prominent finding involved the competencies and strategies that IT PMs identified as important to successfully completing IT projects. Participants highlighted communication as the most successful strategy to ensure the completion of IT projects within budget, on time, and to the customer's satisfaction. This section includes the presentation of the findings, applications to professional practice, implications for social change, recommendations for action and further research, and reflections on the research study.

Presentation of the Findings

The overarching research question was the following: What core competencies and business strategies do information technology project managers use to meet global IT

project deadlines and budgets? I used semistructured interview questions to generate the necessary narrative data to perform thematic analysis as outlined by Clarke and Braun (2017). Participants responded to six semistructured interview questions, not counting any additional probes used during each interview to elicit further detail and insight. Using NVivo 11, I coded each interview transcript and created a total of 30 codes during the second phase of thematic analysis. After I had clustered the codes based on relationships, two themes emerged from the data: (a) global IT project management barriers and reasons for failure, and (b) competencies and strategies for successful global IT project management. Each theme had two subthemes, as outlined in Table 1.

Table 1

Thematic Hierarchy

Theme	Subtheme	Codes
Global IT project management barriers and reasons for failure	Lack of communication and quality	(a) adjusting to the language during communication, (b) consistency, (c) breakdowns in communication, (d) only IT project managers know what the end product should be, and (e) poor quality.
	Issues with culture and time	(a) personnel restrictions, (b) lack of software uniformity creates delays, (c) the people, (d) time zone differences, (e) training shortages, (f) trying to shuffle everything around to make it amenable for everyone, and (g) people who want to make changes once you've begun.
Competencies and strategies for successful global IT project management	Mindful of cost and coordination	(a) keeping on budget, (b) making sure everyone is on the same page, (c) putting the right people with the right projects, (d) trying to save a project, (e) organization, and (f) adjusting to time zone differences based on work and location.
	Cultural awareness and communication	(a) communication, (b) coordinating meetings with different time zones, languages, and cultures, (c) keeping a paper trail, (d) being aware of language, (e) aware of holidays and vacations, (f) respect the culture, and (g) potential training for IT project managers.

Theme 1: Global IT Project Management Barriers and Reasons for Failure

Participants discussed what they perceived as barriers to successful IT project management and reasons why those barriers existed. Participants identified several barriers and reasons for IT project management failure, which fell into two main subthemes. The first was a lack of communication and quality for global IT project management, with five out of five (100%) participants citing communication as the biggest barrier to successful global IT project management. The second subtheme was what participants outlined as issues related to coordinating work involving diverse cultures and time zones. Figure 1 represented the thematic hierarchy of the theme of global IT project management barriers and reasons for failure and the two subthemes encompassed in the theme.

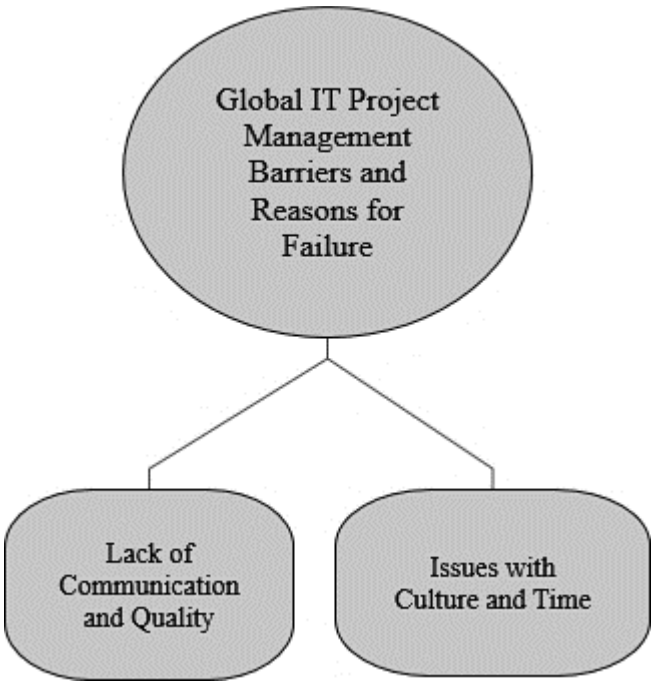

Figure 1. Global IT project management barriers and reasons for failure thematic hierarchy.

Lack of communication and quality. Every participant talked about communication as the largest barrier to successful global IT project management. This was understandable, in that every participant worked on global IT projects where IT employees were from several different locations across the globe. Naizi et al. (2016a) noted that lack of spontaneous and informal communication may inhibit the ability of project managers to establish good relationships and trust with their team members. These teams cannot rely upon face-to-face communication to meet existing information needs, which would help in resolving incidents that arise in these geographically dispersed teams (Zwikael & Smyrk, 2015). As a result, miscommunication was common due to potential issues with translation and conveying the standards expected. Five out of five (100%) participants talked about these breakdowns in communication from the perspective of IT PMs. One participant (20%) mentioned how these communication breakdowns often lead to gaps in the roles that people fulfill. PM4 shared how without clear directives from management and supervisors, these roles can go unnoticed until later during a project's timeline. PM4 explained that everyone on a global IT project assumes that "someone else is doing it (specific work), but it turns out no one's doing it." The consequences of miscommunication can create issues with completing a project on time.

One participant (20%) noted how important it is to communicate the appropriate work expectations when managing a global IT project. For PM5, it was important to understand the levels of experience and knowledge that IT employees had instead of assuming that each IT employee was an expert. With this understanding, it would be

easier for PM5 to manage and integrate employees into projects that used their skills. PM5 faced various challenges in communicating with international IT employees, such as communicating across generations, languages, and levels of expertise; communicating over the phone; and communicating virtually through email or instant messaging.

Niazi et al. (2016b) admitted that lack of face-to-face meetings can lead to misunderstanding of requirements. Two (40%) participants recognized that communicating the intent and goals of a project were very important to the success of the project. PM2 acknowledged how important it was to communicate "the right information with the right people at the right time" to make sure that a project remained on time. In doing so, PM2 could clearly communicate the goal of the project in a way that ensured that international IT employees understood what they needed to accomplish without feeling overwhelmed with information that was beyond the scope of their current assignment. Nonetheless, PM2 believed that it was crucial for employees to understand what "they are going to make and what the end product should be." PM3 shared how a miscommunication about the goal and intent of an IT project could lead to an IT employee "building something that's wrong," which would potentially delay the timely completion of an IT project. As an IT PM, PM3 thought it was of pivotal importance to reiterate the goals and intent of a project with employees so that "it's very clear up front what is being built and what the requirements are."

Niazi et al. (2015) noted that when team members were communicating over the phone or over Skype, accents created additional challenges to understanding one another. This was especially true when Internet connections influenced call quality, which could

lead to broken sentences with words missing (Niazi et al., 2015). One (20%) participant noted how communication was difficult when dealing with employees on other continents because of poor call quality and thick accents. PM3 mentioned that because of poor call quality, written communications through email and instant messaging were important to ensure that both parties understood what their responsibilities were. Through these communication channels, PM3 was able to mitigate the effect of miscommunication as much as possible, but he acknowledged that miscommunication was a known problem in managing global IT projects. Naizi et al. (2016a) highlighted how challenging it is for both client and vendor organizations to communicate with one another because their native languages are generally not the same. As a result, it is important to identify the challenges that exist between project managers and their international team members in making sure that there is an understanding of the objectives, goals, and timelines for global IT projects.

During the interviews, it became apparent that breakdowns in communication influenced the quality of work that PMs could expect from their global employees. If the right information was miscommunicated to international IT employees, then it would stand to reason that there would be additional issues with completing certain action items during an IT project. Time, budget, quality, and scope represent the primary challenges that a PM has to overcome (Galvin et al., 2014). For one (20%) participant, it was an issue of making sure that individuals with the right skills were working on certain action items that best suited their skillsets. PM3 explained that while having a less well-suited person work on the action item would “get it done [and] check the box,” “you end up

with a poor-quality product that has a lot of bugs, performance issues, crashes, instability, [and] downtime." As a result, PM3 believed that it is important to "have the right qualified resources (employees)" working on the project in areas where they are the most skilled. Table 2 outlines the frequency with which interview questions or their subsequent probes generated the data necessary to create the subtheme lack of communication and quality.

Table 2

Lack of Communication and Quality (Frequency)

Participant	Interview questions	Reference
PM1	2	3
PM2	2	2
PM3	2, 4	7
PM4	2	2
PM5	2	4

Issues with culture and time. Different organizations or their project teams often have different priorities when implementing or managing global projects (Joslin & Müller, 2015). Some organizations prioritize communications, whereas others focus on cultural harmony with a host nation (Joslin & Müller, 2015). Nearly every participant (80%) mentioned issues relating to completing a global IT problem on time with IT employees who worked in different time zones and with different software programs. One (20%) participant explained how difficult it was to schedule meetings and conferences with employees because of time zone differences. PM1 mentioned that often, employees would have to come in after normal business hours for a meeting. For PM1, time zone differences were barriers to communication as well, as many international

employees could only receive directives from the IT PM during hours when the PM was available if he or she was in another country. PM1 identified this as an issue when dealing with an emergency because "you just have to wait" until the employees respond to an email. This created issues with addressing time-sensitive emergencies. Turkulainen et al. (2015) expressed how time zones created additional challenges for IT PMs because of potential delay in response for multiple hours if emergencies occurred.

One (20%) participant noted the value in setting up milestones early in a project so that there was a predictable cadence of what milestones were coming up. PM3 talked about completing work in "sprints," which "can vary from one week to four weeks." At the end of these sprints, the team demos the product to get feedback and test the software or program. PM3 mentioned that demoing the software or program continuously through the development of the software or program was "super helpful to catch any communication problems and code problems." PM3 acknowledged that scheduling regular meetings with employees after each demo was important to refocus on the next milestone and objectives. As Mueller (2015) pointed out, differences in perceptions of time between people working on the same project can affect the terms of the project timelines and milestones.

One (20%) participant mentioned how these differences in time zones can influence regular life as well as work life. This was true for PM2, who talked about working with different time zones and offered an example of doing so. PM2 shared how "I'm working with the European time but I'm living in the Philippines," which created abnormal work hours. While this was not a problem for PM2, IT employees who might

not be aware of the work hours often had a problem with working "until like 1:00 a.m. every day." PM2 was the only participant who noted that different time zones influenced the personal lives of IT PMs and their employees. As Verner et al. (2014) suggested, to overcome the challenge of teams being separated by time zones, PMs have to ensure that they use communication tools that can synchronize time, such as wikis and blogs.

One (20%) participant talked about how clients made changes in their expectations of the software or program, and how the changes in client expectation influenced the time it took to make changes to the program. PM3 described this phenomenon as "scope creep" and talked about how it is inevitable that this occurs over the course of an IT project because "things change [and] decisions change." When a client wanted to make some sort of change, PM3 provided a document outlining the change requested and sent it to the client to obtain confirmation. After receiving confirmation, PM3 went to IT employees and discussed the recent changes and what they meant for their timeline. If needed, PM3 created an outline of the new milestones and objectives to distribute to all IT employees. Panas et al. (2014) stated that the need for change, or management of change, represents another aspect that researchers cited as having importance for global projects.

Global IT project teams must learn about a multitude of cultures within the countries in which they work, including cultures deriving from the various people, the political and security situations, and the business process traditional to the host country (Argyris & Schön, 1978). Four (80%) participants talked about how local labor laws influence the work environment for a global IT project. For three (60%) participants, the

primary topic involved local labor laws in India because of the multiple holidays the country celebrates. PM5 mentioned how difficult it was to keep all of the particular labor laws in mind when working with employees from several different countries. For PM5, there could be employees from India who "right in the middle of the project [got] three, four, five days off." In such situations, PM5 had to give the employees the time off.

PM1 spoke about this issue and shared how important it was to "do a very good job at scheduling and being aware of [these holidays] when you're setting up certain important meetings of deliverables." While it may not have been ideal for IT PMs, PM1 recognized it was necessary to "know when the people are gonna be gone" for their holidays. There was an example that PM3 talked about where there was an expectation to launch a program that conflicted with a national holiday in India that gave "significant time off for the team in India." While PM3 recognized that "it's not like you want everyone to cancel their national holiday" it was critical to being a PM to "plan and anticipate those issues" instead of caught unaware. As Locatelli et al. (2014) pointed out almost every aspect of dealing with virtual teams requires a careful approach, which is a challenge the PM has to anticipate and respond to appropriately.

Niazi et al. (2016a) acknowledged that with the changing global software environment, there were additional cultural challenges of which IT PMs must be aware. Three (60%) participants identified how the culture of an IT employee will influence how a PM can communicate with them. Even though it was not a negative, it did create an issue when the PM needs to give directives or provide feedback about work. PM2 explained how there may be situation with an international IT employee where "it might

be rude to you (the employee) but it might not be rude to me or to my office mates." As a result, PM2 expressed how important it was to "be very careful with the use of language" because it was better to come across as polite instead of insulting to an employee. PM3 called this managing cultural tendencies of IT employees, which required understanding "the way people look at hierarchy and management and authority." For PM3, it was something that took finesse in understanding the differences between international employees. Whereas some cultures would provide feedback about the project, other cultures may not provide that feedback without prompted about their opinion. PM1 suggested there be a special training in place to help IT PMs adjust and transition to working with employees from diverse cultures because it may be of use to be aware of those differences in the work environment.

Two (40%) participants talked about how restrictions influence their international, IT employees' ability to test and demo the software or program to its fullest capacity. PM4 shared how this barrier prevents the use of real-life data to see how the software functions, which meant that "we go back in [and] we have to test the data ourselves" instead of having an international team run tests. PM1 spoke about how international IT employees may face data restrictions because they do not have "access to the application" as non-US people. PM1 mentioned these restrictions have an effect on the hiring process because international IT employees may be barred from working on a project, which "cuts your team in half sometimes" and influences whether the job can be done on time or not. As Galvin et al. (2014) discovered with respect to PM, the major challenge that organizations face is the need to meet all the project's goals while adhering to its

constraints, such as time and resource limitations. Table 3 outlined the frequency of participant responses that supported the subtheme.

Table 3

Issues With Culture and Time (Frequency)

Participant	Interview questions	Frequency
PM1	3, 4	7
PM2	3, 4	4
PM3	3, 4	3
PM4	4	1
PM5	3, 4	4

Theme 2: Competencies and Strategies for Successful Global IT Project Management

Participants talked about what they perceived as important competencies and strategies for the successful management of global IT projects that were on time, on budget, and met the consumer's expectations. There were a variety of strategies and skills that participants identified during their interviews. The subthemes mindful of cost and coordination, and cultural awareness and communication emerged from the various responses participants provided. The first subtheme outlined the support and evidence for the importance of managing the costs associated with a global IT project and coordinating the employees to work in the areas where their expertise lay within. The second subtheme highlighted the evidence for cultural awareness and communication as important competencies and strategies to successfully manage global IT projects. Figure 2 depicted the thematic hierarchy of the theme competencies and strategies for successful global IT project management and the two subthemes encompassed in the theme.

Figure 2. Competencies and strategies for successful global IT project management.

Mindful of cost and coordination. Five (100%) participants noted the importance of being mindful of costs during the management of a global IT project and coordinating the appropriate personnel to work on a global IT project. Coordinating an appropriate work flow for a global IT project is an important strategy for IT PMs to successfully manage a large, global IT project. One (20%) participant talked about coordinating a successful workflow with two teams located on different continents. PM3 explained that because of the time zone differences, when one team would finish their workday the other team would begin their workday. As a result, PM3 created a good cadence of work between the two teams so they were "effectively working 24 hours to identify, fix, resolve bugs and regress against the product we were building." Being able to manage and coordinate two separate teams to work together helped ensure the

completion of the global IT project on time and on budget. Joslin and Müller (2015) stated that competences and quality of teamwork influence project success along with project scope, cost, and time management. Niazi et al. (2016b) recognized the value of these time zone differences in organizing and coordinating international teams to create a 24-hour, seven days a week software development model.

Two (40%) participants talked about coordinating the right individuals and resources to successfully complete a global IT project. These two participants recognized that leveraging the right resources for a global IT project influenced the successful completion of the project. As an IT PM, the strategy of personnel coordination was vital to ensure the efficient and effective use of those resources. PM3 talked about how critical it was a review and "validate those skill sets by looking at past projects or look at code reviews" before hiring an international IT employee. For PM3 it was important to ensure "they know the right development language" that aligned with the global IT project. PM5 acknowledged the skill set of employees varied based on how they defined an IT expert, which led to verifying the potential IT employee's skill level. For these two participants, coordinating the right individuals and resources to specific projects was a key strategy to ensure the successful completion of a global IT project.

Nikpay et al. (2013) argued that most corporate IT environments are considerably complex, making management practices difficult to carry out, which results in poor flexibility and high costs. Two (40%) participants mentioned the strategy of making sure various teams were on the same page regarding a global IT project. This was critical for IT PMs managing teams on separate continents and keeping a log of what the workflow

looked like for their teams. Included in this was ensuring each team followed the correct processes no matter the location of the team. PM1 explained how in India there may be other processes they follow, which made it important to "develop a strategy to ensure that everybody's on the same page and using all the same processes." PM3 shared a similar sentiment about making sure the international teams understood the specific requirements for a global IT project. For PM3 it was crucial to ensure "the requirements, functional, technical, and UX requirements, end to end are well documented and available up front" to an international team. PM3 recognized that working with international teams made it difficult to guarantee there were no misunderstandings or misinterpretations about the requirements of a global IT project. As a result, PM3 believed it was critical to establish those requirements in the beginning and to obtain documentation of understanding from the international teams to refer to if there were mistakes.

Coordinating the various moving parts of a global IT project required a variety of skills, such as allocating the correct individuals to projects and keeping track of the workflow for international teams. By successfully organizing and coordinating international teams, IT PMs could ensure the completion of global IT projects on budget and on time. Sumner and Powell (2013) talked about how vital these soft skills were for IT PMs to keep track of the planning process for a global IT project and organizing the resources needed to stay on time and on budget. Five (100%) participants recognized the importance of coordinating and organizing the resources available to them to successfully complete a global IT project. One (20%) participant identified organizational skills as the most important strategy needed to successfully complete a global IT project on budget,

on time, and to the consumers' specifications. For PM4, organizational skills were necessary to "handle such a complex job, 'cause [*sic*] you're dealing with different factors and different dynamics" that need to be taken into account. Niazi et al. (2016b) noted how important these organizational skills were to IT PMs because they are expected to successfully complete a global IT project on time, on budget, and to the consumers' requirements.

IT PMs utilize a variety of organizational skills to keep track of the various moving parts needed to complete a global IT project, especially when a consumer wants to change the scope of a project. Because of the change request, IT PMs reassemble teams and allocate additional resources to support their international teams in making the changes requested by the consumer. Two (40%) participants talked about how they reshuffled their resources around to complete the latest changes. PM2 explained that change requests created issues with completing a global IT project on time, which required additional resources "to be able to finish it (the project) in less time." While a consumer may think a change was minor, PM2 admitted the changes were rarely minor. As a result, PM2 made consumers sign a document stating the scope of the global IT project before beginning and when requesting changes, PM2 would reference the previously agreed upon document. If the consumer still wanted to make the changes, PM2 would amend the budget and timeline to reflect the changes. Table 4 outlined the frequency of participants responses that supported the subtheme of mindful of cost and coordination. Flexibility removes complexity and facilitates all processes related to a given project by making the processes more efficient. As Panas et al. (2014) pointed out

organizations implementing global projects must ensure the adaptation of their structures and project management methodologies.

Table 4

Mindful of Cost and Coordination (Frequency)

Participant	Interview questions	References
PM1	1, 2	7
PM2	2, 3	6
PM3	1, 3	9
PM4	3, 6	4
PM5	1, 3	6

Cultural awareness and communication. Five (100%) participants identified cultural awareness and communication as two helpful strategies to successfully complete a global IT project. Global IT managers have the added responsibility of ensuring that IT projects launched and implemented abroad are parallel with the culture of the host nation and that they add value to the company (Svendsen et al., 2013). Niazi et al. (2016a) noted how important cultural awareness was to the success of global software development because of the international locations of the global software environment. Since IT PMs who managed global IT projects worked with international teams, it was vital to have an awareness and understanding of their team's culture. This understanding and awareness helped IT PMs communicate in ways that respected their team's culture. PM2 identified how a culture may perceive the use of certain language as rude, whereas PM2 would not have known the use of certain language was rude. As a result, PM2 believed it was crucial as an IT PM to have an awareness of these cultural differences to prevent coming across as rude to the international team. Failure to learn and understand the multiple

facets of these cultures can ultimately lead to the failure of global IT projects (Stan & Vermeulen, 2013).

Tong et al. (2016) acknowledged the value of being aware of the international team members' culture as an attribute successful IT PMs need. One (20%) participant talked about how valuable it was as a IT PM to show respect for the international team's culture. PM5 shared how much cultural awareness and respect improved work relationships with international employees with an example of how "if you're showing that you respect them and you know about their culture" international employees will recognize "you're not only using them" to complete a global IT project. PM5 talked about taking the time to get to know his international teams and their respective cultures. PM5 mentioned utilizing the three different methods of persuasion in rhetoric, ethos, logos, and pathos, helped "overcome the cultural differences." PM5 explained that by getting to know the team and building trust gave the employees "some flexibility to know themselves, to talk about other things, and to give them the opportunity to be a human before being a member of the project team." Because different nations have different cultures, project teams working in different locations abroad must ensure they align the organizational culture to the national culture to successfully complete the task while remaining respectful of the host nation (Ika & Hodgson, 2014).

Two (40%) participants understood the importance of being aware of an international team's culture because of the various holidays within each culture. Being aware of these holidays gave these IT PMs the opportunity to plan the workflow for their teams so that each holiday did not interrupt the progress of the global IT project. Respect

for the culture and the international team were important IT PMs who completed global IT project because it facilitated the cooperation of the international team and the PMs. In a foreign environment, employees may have to change their conduct to undertake the projects, which requires learning new processes in a new context (Casillas & Moreno-Menendez, 2014). The concerned firm or team must make conscious decisions to change their actions in response to changes in circumstances for learning to occur (Casillas & Moreno-Menendez, 2014).

The awareness and respect for the international team's culture helped IT PMs communicate their objectives and goals to their international employees. Within each culture, there were different approaches that IT PMs had to take to either question a decision or obtain feedback from their team members. One (20%) participant talked about how these cultural differences influenced the way employees talked to IT PMs. PM1 talked about how in some cultures, team members on a project would not question an IT PM because of their respect for the leadership position. For PM1 to receive feedback, PM1 would have to specifically ask for those employees to provide feedback. PM1 explained how each culture was different from one another in how employees approached IT PMs about the global IT project. Whereas some employees would provide feedback when asked, others would not provide a direct answer. PM1 shared how "they'll talk around it or [about something] different." As a result, PM1 learned to "just keep speaking with them, ask in a different way perhaps" to get an answer. Global IT managers have the added responsibility of ensuring that IT projects launched and

implemented abroad are parallel with the culture of the host nation and that they add value to the company (Svendsen et al., 2013).

One (20%) participants expressed a similar sentiment about how different cultures approach and talk to management. PM3 acknowledged the differences between working with companies in the United States and outside the United States. PM3 explained:

> So, for example, at companies I worked for here in the Northwest, there's a principle that's used to evaluate employees which is all about speaking up and showing ownership, having backbone to voice opinions, and everyone can influence product direction. Whereas in a lot of cultures and companies, that may not be the case. It may be a culture where it's more important to just give the right directions, e.g. tell me the ten things I need to do and I will go do that without a lot of questioning.

For PM3, it was vital to make sure international employees felt encouraged to ask questions and raise concerns when they perceived something wrong with the global IT project. If an international employee did not ask questions about a process he or she thought was incorrect, then there could be mistakes overlooked. Ika & Hodgson (2014) noted that because different nations have different cultures, project teams working in different locations abroad must ensure they align the organizational culture to the national culture to successfully complete the task while remaining respectful of the host nation. dos Santos Teixeira et al. (2016) noted that management uses change management goals to focus on soft issues, such as culture, leadership, and motivation.

Papke-Shields and Boyer-Wright (2017) identified soft skills, such as people skills and conflict-resolution skills, as valuable to IT PMs who work on global IT projects. By respecting and understanding international team members, IT PMs could be more successful in mediating potential issues and finding mutually beneficial solutions (Papke-Shield & Boyer-Wright, 2017). One (20%) participant provided a definition of how a good IT PM treated his or her employees, both stateside and international. PM4 defined a good IT PM as someone who could connect to the employees, seek to understand the employees' needs, and listen to the employees' needs before directing and managing the employees. PM4 explained "being a listener, being a communicator, being able to integrate with your team, and . . . being more empathetic towards people" were valuable competencies needed to be a successful IT PM. Without those competencies, PM4 hypothesized the project led by the IT PM would be stagnant or "in the red zone because they're not able to understand the team needs." PM4 admitted the success of a global IT project was contingent on the ability of IT PMs to understand the needs of their employees. Table 5 highlighted the frequency of participant responses that supported the subtheme cultural awareness and communication.

Table 5

Cultural Awareness and Communication (Frequency)

Participant	Interview questions	References
PM1	1, 3	8
PM2	6	4
PM3	3, 4	7
PM4	4, 6	6
PM5	1, 3	6

Applications to Professional Practice

This doctoral study included an examination of core competencies necessary for global IT project management from companies located in the Pacific Northwest; the findings could also apply to other organizations in the public sector or private sector. The findings of the study included that the barriers and reasons for failure for global IT project management were lack of communication and quality and issues with culture and time. Stan and Vermeulen (2013) noted that because global IT project teams work worldwide and encounter situations different from those with which they are familiar, IT project teams require a great deal of inquiry to cope. This is true in terms of communication, culture, and time. For communication, previous researchers have noted that language may result major cause for project failure, as differences in language are common with global projects (Klitmøller & Lauring, 2013). As such, effective project management requires an understanding of language differences as organizational leaders cannot assume that every team member will understand one another even when workers are using the same language (Klitmøller & Lauring, 2013). As for culture, Ika and Hodgson (2014) asserted that project teams working in different locations abroad must ensure they align their organizational culture to the national culture to successfully complete the task while remaining respectful of the host nation. For time, Mueller (2015) reported that national and cultural interpretations of time also exist, wherein some individuals value time, and others simply regard time as another normal aspect. Differences in perceptions of time between people working on the same project can affect the terms of project timelines and milestones (Mueller, 2015). To avoid this confusion

and conflict in values, the PM has to inform every team member that time will be valued during the project (Mueller, 2015). Galvin et al. (2014) noted that common project execution barriers include organizational structures, cultural differences, development models, lack of skills and competencies, and insufficient senior management support.

Additionally, the findings of the study also included competencies and strategies for successful global IT project management, which consisted of mindfulness regarding cost and coordination, and cultural awareness and communication. Being mindful of communication is key, and has already been implemented in my cases of project management. Niazi et al. (2015) asserted that with newer communication tools, project managers are able to bridge the gap between distributed teams. In terms of cost, Hu et al. (2012) reported that high failure rates of projects may derive from poor performance problems, including safety incidents, cost overruns, poor environmental and sustainable performance, and functional or quality defects. The IT project managers interviewed for this study conveyed strategies that their companies use to implement or enhance their IT projects. This study could provide IT leaders and global IT project managers an insight into the core competencies needed to implement global projects.

The purpose of this study was to include the analysis of the core competencies necessary for global IT project management. However, a notable gap in the literature exists in terms of the lack of empirical evidence on the core competencies of global IT and other projects. Rodrigues and Sbragia (2013) stated that if an organization wishes to maintain its competitive edge within the global market, the organization may manage various IT projects overseas because of a scarcity of required resources in the host

country. The best practices found in this study should encourage organizations to take more of a strategic view when global IT projects are employed.

Implications for Social Change

Mir and Pinnington (2014) stated that one way of enhancing profitability and contributions to social welfare programs for global IT organizations involves ensuring they accomplish and preserve a competitive edge within the foreign market. The implications for social change are many because a loss of 50 to 80 billion dollars occurs annually for canceled and unsuccessful global IT projects constituting global IT project failures, representing a significant loss to businesses (Kuesten, 2013). The implication for positive social change includes the potential to help companies contribute to corporate social responsibility (CSR) through improvements in the fields of ethical standards and international norms. The potential for this study to help achieve sustainability goals clearly demonstrates the capability for social change.

This study also has the potential to provide positive social change for individuals, the community, and society by assisting researchers in understanding how people from different cultures and nations adopt new and existing technologies, which could benefit social development. Also, this study will have social importance to assist researchers in understanding how people from different cultures and nations adopt new and existing technologies. In addition, Awan and Akhtar (2014) asserted that failure on behalf of individuals to embrace and make effective use of technologies represents a major hindrance to social development.

Recommendations for Action

The global IT project managers interviewed for this study were aware of the potential challenges in managing global projects. Each shared their approach to alleviate the negatives and augment the positives. As Zwikael and Smyrk (2015) explained, the primary decision maker, the project manager (PM) has the ultimate responsibility to ensure that the project runs smoothly. All stakeholders should receive cultural awareness training to increase the potential for positive outcomes. I discovered during the interviews that the training of both PMs and subordinates would help improve results. Stan and Vermeulen (2013) noted these employees and teams cannot understand the multiple facets of these cultures without learning about them, which can ultimately lead to the failure of global IT projects.

Global IT project managers should improve their communication skills with their globally dispersed teams. Sumner and Powell (2013) noted that experts design training programs and courses that emphasize both hard and soft skills so that PMs demonstrate these core competences. The communication skills needed for use in group meetings to inform team members should include the roles, goals, and vision of the organization. Sumner and Powell (2013) stated organizations may offer on-the-job training in these competencies to ensure that their workforce successful incorporates those. All of the global IT project managers interviewed for this study discussed strategies to bring the group together in order to develop a common project management language. This study will be disseminated to PMI under the published research section of their website. The strategies uncovered during this study should be beneficial to global IT Project managers

on their first assignment or veteran PMs seeking to implement process improvement efforts. The important themes presented in this study could improve global IT project managers leadership skills with their team members.

Recommendations for Further Research

In this qualitative multiple-case study, the sample size of the participants was the first limitation. The recommendation to add a larger sample size of participants, which would include a number of stakeholder (team members) would enable application of the study findings to the entire population of global IT projects. During this study, data saturation was attained after interviewing five participants from four industries (internet-retail, aerospace, manufacturing and telecommunications). There was no need to add participants to the study, as indicated by redundancy or data replication. The findings from this study expand the understanding of core competencies necessary for IT project management in the private sector, which may increase global IT project success rates and gain effective strategies to implement IT solutions, increasing profitability.

The second limitation of this study focused on businesses located in the PNW which could be a concern for investigators wanting a more general or other geographical area that covers the global IT project management discipline. As this study was specific to the PNW, future research must now be embarking on studies in other U.S. geographical areas. The third limitation of this study found that the majority of the organizations that were performing the outsourced labor were located in South Asia. Future research that focuses on other geographical areas (i.e. Africa, South America, or Europe) may strengthen the study for investigators seeking to expand this knowledge

outside of South Asia. This study was derived from a qualitative research method with a multiple case study design; other methodologies and designs should be considered for more research on core competencies necessary for IT project management.

Reflections

This doctoral journey has transformed my life forever. I have needed to balance my career and personal and social life. For more years than I wish to count, I have had the opportunity to develop many lasting relationships with students and faculty alike. I was able to share scholarly concepts with peers and was able to rely on Walden faculty guide me through this process.

I found that motivation was not enough, and rigorous discipline was required to conquer every obstacle to achieve the many goals. I was not familiar with my participants personally, mitigating personal bias. I ensured that the interview protocol was followed as designed, and doing my best to control my responses to the interview responses was also important to mitigate bias and I feel that this study was a great success.

In interviewing with the global project managers, I changed my perspective about them and their roles. I realized the amount of time, inspiration, energy, insights, dedication and passion they put into their work. Their strong commitment was inspirational to me. Also, I felt comfortable interviewing private sector companies from the PNW from the telecommunications, retail and aerospace manufacturing industries. It was rewarding after conducting this study that I in a small way was supporting their mission, their workers, and partners, giving back a great contribution to the community, and improving the economy.

Conclusion

The failure of IT projects does not reflect a recent trend. Whitney and Daniels (2013) asserted that failure and risks of failure of IT projects exist in the past, which may derive from the lack of clear knowledge of IT project management or the lack of such skills at the time subsequently, global IT project managers require effective strategies to manage these projects. The study findings revealed many effective core competencies used by these PM's to provide potential learning and guidance for others. The detailed analysis of interviews of global IT project managers combined with methodological triangulation data from project documents uncovered two main themes and four subthemes. The themes were (a) Global IT Project Management barriers and reasons for failure and (b) Competencies and Strategies for Successful Global IT Project Management. The subthemes included (a) Lack of communication and quality, (b) Issues with culture and time, (c) Mindful of cost and coordination, and (d) Cultural awareness and communication. Based on these themes and subthemes, managers could find strategies to start and improve global IT project management policies and training programs to address these issues because successful global IT project management programs could improve sustainability and social change.

References

Aarseth, W., Rolstadås, A., & Andersen, B. (2013). Managing organizational challenges in global projects. *International Journal of Managing Projects in Business*, *7*(1), 103–132. doi:10.1108/IJMPB-02-2011-0008

Acharya, A. S., Prakash, A., Saxena, P., & Nigam, A. (2013). Sampling: Why and how of it? *Indian Journal of Medical Specialties, 4*, 330-333. doi:10.7713/ijms.2013.0032

Ahsan, K., Ho, M., & Khan, S. (2013). Recruiting project managers: A comparative analysis of competencies and recruitment signals from advertisements. *Project Management Journal*, *44*(5), 36–54. doi:10.1002/pmj.21366

Al Ariss, A., Cascio, W. F., & Paauwe, J. (2014). Talent management: Current theories and future research directions. *Journal of World Business*, *49*, 173-179. doi:10.1016%2Fj.jwb.2013.11.001

Anney, V. (2014). Ensuring the quality of the findings of qualitative research: Looking at trustworthiness criteria. *Journal of Emerging Trends in Educational Research and Policy Studies*, *5*, 272–281. Retrieved from http://jeteraps.scholarlinkresearch.com/

Argyris, C., & Schön, D. (1978). *Organizational learning: A theory of action perspective*. New York, NY: Addison-Wesley.

Awan, A. G., & Akhtar, N. (2014). The impact of corporate social responsibility (CSR) on profitability of firms: A case study of fertilizer and cement industry in Southern Punjab-Pakistan. *International Journal of Development and Economic Sustainability*, *2*(4), 70-79. Retrieved from http://www.eajournals.org/wp-content/uploads/The-Impact-of-Corporate-Social-Responsibility-CSR-on-Profitability-of-Firms-A-Case-Study-of-Fertilizer-Cement-Industry-in-Southern-Punjab-Pakistan.pdf

Awate, S., Larsen, M. M., & Mudambi, R. (2015). Accessing vs sourcing knowledge: A comparative study of R&D internationalization between emerging and advanced economy firms. *Journal of International Business Studies*, *46*(1), 63-86. doi:10.1057%2Fjibs.2014.46

Baillie, L. (2015). Promoting and evaluating scientific rigour in qualitative research. *Nursing Standard*, *29*(46), 36-42. doi:10.7748/ns.29.46.36.e8830

Baker, S. E., & Edwards, R. (2012). *How many qualitative interviews is enough?* (National Centre for Research Methods review paper). Retrieved from http://eprints.ncrm.ac.uk/2273/

Baškarada, S. (2014). Qualitative case studies guidelines. *Qualitative Report*, *19*(40), 1–25. Retrieved from http://tqr.nova.edu/

Bekhet, A. K., & Zauszniewski, J. A. (2012). Methodological triangulation: An approach to understanding data. *Nurse Researcher*, *20*(2), 40–43. doi:10.7748/nr2012.11.20.2.40.c9442

Beringer, C., Jonas, D., & Kock, A. (2013). Behavior of internal stakeholders in project portfolio management and its impact on success. *International Journal of Project Management*, *31*, 830–846. doi.org/10.1016/j.ijproman.2012.11.006

Bloomberg, L. D., & Volpe, M. (2015). *Completing your qualitative dissertation: A road map from beginning to end*. Thousand Oaks, CA: Sage.

Brady, T., & Davies, A. (2014). Managing structural and dynamic complexity: A tale of two projects. *Project Management Journal*, *45*(4), 21-38. doi:10.1002%2Fpmj.21434

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(1), 77–101. doi:10.1191/1478088706qp063oa

Braun, V., & Clarke, V. (2013). *Successful qualitative research: A practical guide for beginners*. Thousand Oaks, CA: Sage.

Braun, V., Clarke, V., & Terry, G. (2014). Thematic analysis. In P. Rohleder & A. Lyons (Eds.), *Qualitative research in clinical and health psychology* (pp. 95–113). Basingstoke, UK: Palgrave MacMillan.

Buganza, T., Kalchschmidt, M., Bartezzaghi, E., & Amabile, D. (2013). Measuring the impact of a major project management educational program: The PMP case in Finmeccanica. *International Journal of Project Management*, *31*, 285–298. doi:10.1016/j.ijproman.2012.07.003

Burmeister, E., & Aitken, L. M. (2012). Sample size: How many is enough? *Australian Critical Care*, *25*(4), 271–274. doi.org/10.1016/j.aucc.2012.07.002

Camilla, M., Serlenga, L., & Shin, Y. (2013). Globalisation and technological convergence in the EU. *Journal of Productivity Analysis*, *40*(1), 15-29. doi.org/10.1007/s11123-012-0308-9

Carter, N., Bryant-Lukosius, D., DiCenso, A., Blythe, J., & Neville, A., J. (2014). The use of triangulation in qualitative research. *Oncology Nursing Forum, 41*, 545-547. doi:10.1188/14.ONF.545.547

Carvalho, M. M. D., & Rabechini Junior, R. (2015). Impact of risk management on project performance: The importance of soft skills. *International Journal of Production Research*, *53*, 321-340. doi.org/10.1080%2F00207543.2014.919423

Casillas, J. C., & Moreno-Menéndez, A. M. (2014). Speed of the internationalization process: The role of diversity and depth in experiential learning. *Journal of International Business Studies*, *45*(1), 85-101. doi.org/10.1057%2Fjibs.2013.29

Castillo-Montoya, M. (2016). Preparing for interview research: The interview protocol refinement framework. *The Qualitative Report*, *21*, 811-831. Retrieved from http://nsuworks.nova.edu/tqr/vol21/iss5/2

Chen, C. P., & Zhang, C. Y. (2014). Data-intensive applications, challenges, techniques and technologies: A survey on big data. *Information Sciences*, *275*, 314–347. doi:10.1016/j.ins.2014.01.015

Cheung, R., & Vogel, D. (2013). Predicting user acceptance of collaborative technologies: An extension of the technology acceptance model for e-learning. *Computers & Education*, *63*, 160–175. doi:10.1016/j.compedu.2012.12.003

Chuang, S. (2013). Essential skills for leadership effectiveness in diverse workplace development. *Online Journal for Workforce Education and Development*, *6*(1), 1–23. Retrieved from http://opensiuc.lib.siu.edu/ojwed/vol6/iss1/5/

Cleary, M., Horsfall, J., & Hayter, M. (2014). Data collection and sampling in qualitative research: Does size matter? *Journal of Advanced Nursing*, *70*, 473-475. doi:10.1111/jan.12163

Converse, M. (2012). Philosophy of phenomenology: How understanding aids research. *The International Journal of Research Methodology in Nursing and Health Care, 20*, 28-32. doi:10.7748/nr2012.09.20.1.28.c9305

Cronin, C. (2014). Using case study research as a rigorous form of inquiry. *Nurse Researcher*, *21*(5), 19-27. doi:10.7748/nr.21.5.19.e1240

Crosbie, J., & Ottmann, G. (2013). Mixed method approaches in open-ended, qualitative, exploratory research involving people with intellectual disabilities: A comparative methods study. *Journal of Intellectual Disabilities*, *17*, 182-197. doi:10.1177/1744629513494927

Davidsen, A. (2013). Phenomenological approaches in psychology and health sciences. *Qualitative Research in Psychology, 10*, 318-339. doi:10.1080/14780887.2011.608466

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1992). Extrinsic and intrinsic motivation to use computers in the workplace. *Journal of Applied Social Psychology, 22*(14), 1111-1132. Retrieved from http://onlinelibrary.wiley.com/doi/10.1111/j.1559-1816.1992.tb00945.x/full

Deakin, H., & Wakefield, K. (2013). Skype interviewing: Reflections of two PhD researchers. *Qualitative Research, 14*, 603-616. doi:10.1177/1468794113488126

DeFelice, D., & Janesick, V. J. (2015). Understanding the marriage of technology and phenomenological research: From design to analysis. *The Qualitative Report*, *20*, 1576–1593. Retrieved from http://nsuworks.nova.edu/tqr/vol20/iss10/3

De Massis, A., & Kotlar, J. (2014). The case study method in family business research: Guidelines for qualitative scholarship. *Journal of Family Business Strategy*, *5*(1), 15-29. doi:10.1016/j.jfbs.2014.01.007

Denzin, N. K. (2012). Triangulation 2.0. *Journal of Mixed Methods Research*, *6*(2), 80–88. doi:10.1177/1558689812437186

Ditmore, J. (2013). Why do big IT projects fail so often? *InformationWeek*. Retrieved from http://www.informationweek.com/strategic-cio/executive-insights-and-innovation/why-do-big-it-projects-fail-so-often/d/d-id/1112087?

Doody, O., & Noonan, M. (2013). Preparing and conducting interviews to collect data. *Nurse Researcher*, *20*(5), 28-32. doi:10.7748/nr2013.05.20.5.28.e327

Dorfman, P., Javidan, M., Hanges, P., Dastmalchian, A., & House, R. (2013). Globe: A twenty-year journey into the intriguing world of culture and leadership. *Journal of World Business*, *47*, 504–518. doi:10.1016/j.jwb.2012.01.004

dos Santos Teixeira, G. C., Maccari, E. A., & Simonsen, D. (2016). The influence of competency level and maturity in project management in the corporate income of a company of the transformation sector. *Future Studies Research Journal: Trends and Strategies*, *8*(1), 30. doi.org/10.7444%2Ffuture.v7i1.200

Durst, S., Bruns, G., & Henschel, T. (2016). The management of knowledge risks: What do we really know? *International Journal of Knowledge and Systems Science (IJKSS)*, *7*(3), 19-29. doi.org/10.4018%2Fijkss.2016070102

Eik-Andersen, P., Landmark, A. D., & Johansen, A. (2015). Managing cost and time in a large portfolio of projects. *Procedia Economics and Finance*, *21*, 502–509. doi:10.1016/s2212-5671(15)00205-1

Eskerod, P., & Huemann, M. (2013). Sustainable development and project stakeholder management: What standards say. *International Journal of Managing Projects in Business*, *6*(1), 36–50. doi:10.1108/17538371311291017

Fang, C., Marle, F., Xie, M., & Zio, E. (2013). An integrated framework for risk response planning under resource constraints in large engineering projects. *IEEE Transactions on Engineering Management*, *60*, 627-639. doi.org/10.1109%2Ftem.2013.2242078

Fishbein, M. (1979). A theory of reasoned action: Some applications and implications. *Nebraska Symposium on Motivation, 27,* 65-116. Retrieved from http://psycnet.apa.org/psycinfo/1982-21121-001

Flyvbjerg, B. (2014). What you should know about megaprojects and why: An overview. *Project Management Journal*, *45*(2), 6-19. doi.org/10.1002%2Fpmj.21409

Fusch, P. I., & Ness, L. R. (2015). Are we there yet? Data saturation in qualitative research. *Qualitative Report*, *20*, 1408–1416. Retrieved from http://tqr.nova.edu/

Galvin, T., Gibbs, M., Sullivan, J., & Williams, C. (2014). Leadership competencies of project managers: An empirical study of emotional, intellectual, and managerial dimensions. *Journal of Economic Development, Management, IT, Finance, and Marketing*, *6*(1), 35–60. Retrieved from http://www.gsmi-ijgb.com/Pages/JEDMITFMEditorialBoard.aspx

Gibson, S., Benson, O., & Brand, S. L. (2013). Talking about suicide: Confidentiality and anonymity in qualitative research. *Nursing Ethics*, *20*(1), 18-29. doi:10.1177/0969733012452684

Gioia, D. A., Corley, K. G., & Hamilton, A. L. (2013). Seeking qualitative rigor in inductive research notes on the Gioia methodology. *Organizational Research Methods*, *16*(1), 15-31. https://doi.org/10.1177/1094428112452151

Glaser, B.G., & Strauss, A. (1967). *Discovery of grounded theory.* Chicago, IL: Aldine

Gläser, J., & Laudel, G. (2013). Life with and without coding: Two methods for early-stage data analysis in qualitative research aiming at causal explanations. *Forum: Qualitative Social Research*, *14*(2). Retrieved from http://nbn-resolving.de/urn:nbn:de:0114-fqs130254.

Gonzalez, R., Llopis, J., & Gasco, J. (2013). Information systems offshore outsourcing: Managerial conclusions from academic research. *International Entrepreneurship and Management Journal*, *9*, 229–259. doi:10.1007/s11365-013-0250-y

Guba, E. G., & Lincoln, Y. S. (1982). Epistemological and methodological bases of naturalistic inquiry. *Educational Communications and Technology Journal*, *30*, 233–252. doi:10.1007/BF02765185

Guba, E. G., & Lincoln, Y. S. (1989). *Fourth generation evaluation*. Newbury Park, CA: Sage.

Guo, H., Yu, Y., & Skitmore, M. (2017). Visualization technology-based construction safety management: A review. *Automation in Construction*, *73*, 135-144. doi.org/10.1016%2Fj.autcon.2016.10.004

Hadidi, N., Lindquist, R., Treat-Jacobson, D., & Swanson, P. (2013). Participant withdrawal: Challenges and practical solutions for recruitment and retention in clinical trials. *Creative Nursing, 19*(1), 37-41. doi:10.1891/1078-4535.19.1.37

Hammersley, M. (2014). On ethical principles for social research. *International Journal of Social Research Methodology*, *18*(4), 433–449. doi:10.1080/13645579.2014.924169

Hampshire, K. (2014). The interview as narrative ethnography: Seeking and shaping connections in qualitative research. *International Journal of Social Research Methodology, 17*(3), 215-231. doi:10.1080/13645579.2012.729405

Harland, T. (2014). Learning about case study methodology to research higher education. *Higher Education Research & Development,* 1-10. doi:10.1080/07294360.2014.911253

Heyvaert, M., Maes, B., & Onghena, P. (2013). Mixed methods research synthesis: Definition, framework, and potential. *Quality & Quantity*, *2*, 659–676. doi:10.1007/s11135-011-9538-6

Hoang, H. H., Jung, J. J., & Tran, C. P. (2014). Ontology-based approaches for cross-enterprise collaboration: A literature review on semantic business process management. *Enterprise Information Systems*, *8*, 648–664. doi:10.1080/17517575.2013.767382

Hoch, J. E., & Kozlowski, S. W. (2014). Leading virtual teams: Hierarchical leadership, structural supports, and shared team leadership. *Journal of Applied Psychology*, *99*(3), 390. doi:10.1037/a0030264

Holzmann, V. (2013). A meta-analysis of brokering knowledge in project management. *International Journal of Project Management*, *31*(1), 2–13. doi:10.1016/j.ijproman.2012.05.002

Hornstein, H. A. (2015). The integration of project management and organizational change management is now a necessity. *International Journal of Project Management*, *33*(2), 291–298. doi:10.1016/j.ijproman.2014.08.005

Hoskins, M, L., & White, J. (2013). Relational inquiries and the research interview: Mentoring future researchers. *Qualitative Inquiry, 19*, 179-188. doi:10.1177/1077800412466224

Houghton, C., Murphy, K., Shaw, D., & Casey, D. (2015). Qualitative case study data analysis: An example from practice. *Nurse Researcher, 22*(5), 8-12. doi.org/10.7748/nr.22.5.8.e1307

Huang, C. L., Li, R. K., Tsai, C. H., Chung, Y. C., & Hsu, Y. W. (2014). A study of using simulation to overcome obstacles that block the implementation of critical chain project management to project management environment. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, *4*(1), 21–35. doi:10.6007/ijarafms/v4-i1/505

Hu, Y., Chan, A., & Le, Y. (2012). *Conceptual framework of program organization for managing construction megaprojects: Chinese client's perspective*. Rheden, NL: Engineering Project Organizations Conference.

Hyett, N., Kenny, A., & Dickson-Swift, V. (2014). Methodology or method? A critical review of qualitative case study reports. *International Journal of Qualitative Studies on Health and Well-Being*, *9*, 23606-23619. doi.org/10.3402%2Fqhw.v9.23606

Ika, L. A., & Hodgson, D. (2014). Learning from international development projects: blending critical project studies and critical development studies. *International Journal of Project Management*, *32*, 1182-1196. doi.org/10.1016/j.ijproman.2014.01.004

Irvine, A., Drew, P., & Sainsbury, R. (2013). Am I not answering your questions properly? Clarification, adequacy and responsiveness in semi-structured telephone and face-to-face interviews. *Qualitative Research*, *13*(1), 87-106. doi:10.1177/1468794112439086

Janghorban, R., Roudsari, R. L., & Taghipour, A. (2014). Skype interviewing: The new generation of online synchronous interview in qualitative research. *International Journal of Qualitative Studies on Health and Well-being, 9*, 24152-24155. doi:10.3402/qhw.v9.24152

Jansson, G., & Nikolaidou, Z. (2013). Work-identity in ethnographic research: Developing field roles in a demanding workplace setting. *International Journal of Qualitative Methods*, *12*(1), 152-167. Retrieved from https://journals.library.ualberta.ca/ijqm/index.php/IJQM/article/viewFile/16381/15058

Johnson, J. V., Riel, R. F., Ogbolu, Y., Moen, M., Brenner, A., & Iwu, E. (2014). Organizational learning and the development of global health educational capabilities: Critical reflections on a decade of practice. *The Journal of Law, Medicine & Ethics*, *42*(s2), 50-59. doi.org/10.1111/jlme.12188

Joslin, R., & Müller, R. (2015). Relationships between a project management methodology and project success in different project governance contexts. *International Journal of Project Management*, *33*, 1377-1392. doi.org/10.1016%2Fj.ijproman.2015.03.005

Kafle, N. P. (2013). Hermeneutic phenomenological research method simplified. *Bodhi: An Interdisciplinary Journal*, *5*, 181–200. doi:10.3126/bodhi.v5i1.8053

Kaiser K. (2009). Protecting respondent confidentiality in qualitative research. *Qualitative health research*, *19*, 1632–1641. doi:10.1177/1049732309350879

Kardes, I., Ozturk, A., Cavusgil, S. T., & Cavusgil, E. (2013). Managing global megaprojects: Complexity and risk management. *International Business Review*, *22*, 905–917. doi:10.1016/j.ibusrev.2013.01.003

Katz, J. (2015). A theory of qualitative methodology: The social system of analytic fieldwork. *Méthod(e)s: African Review of Social Sciences Methodology*, *1*(1–2), 131–146. doi:10.1080/23754745.2015.1017282

Katz, S. (2015). Qualitative-based methodology to teaching qualitative methodology in higher education. *International Journal of Teaching & Learning in Higher Education*, *27*, 352–363. Retrieved from http://www.isetl.org/ijtlhe/

Kennedy, L. (2015). The politics and changing paradigm of megaproject development in metropolitan cities. *Habitat International*, *45*, 163–168. doi:10.1016/j.habitatint.2014.07.001

Klitmøller, A., & Lauring, J. (2013). When global virtual teams share knowledge: Media richness, cultural difference and language commonality. *Journal of World Business*, *48*, 398–406. doi:10.1016/j.jwb.2012.07.023

Klotz, A. C., Da Motta Veiga, S. P., Buckley, M. R., & Gavin, M. B. (2013). The role of trustworthiness in recruitment and selection: A review and guide for future research. *Journal of Organizational Behavior, 34*(Suppl 1), S104-S119. doi:10.1002/job.1891

Kuesten, C. (2013). Leading global project teams: The new leadership challenge. *Journal of Product Innovation Management*, *30*, 400–402. doi:10.1111/j.1540-5885.2012.1006_2.x

Kwak, Y. H., Walewski, J., Sleeper, D., & Sadatsafavi, H. (2014). What can we learn from the Hoover Dam project that influenced modern project management? *International Journal of Project Management*, *32*, 256–264. doi:10.1016/j.ijproman.2013.04.002

Laine, T., Korhonen, T., & Martinsuo, M. (2016). Managing program impacts in new product development: An exploratory case study on overcoming uncertainties. *International Journal of Project Management*, *34*, 717-733. doi.org/10.1016%2Fj.ijproman.2016.02.011

Langer, N., Slaughter, S. A., & Mukhopadhyay, T. (2014). Project managers' practical intelligence and project performance in software offshore outsourcing: A field study. *Information Systems Research*, *25*, 364–384. doi:10.1287/isre.2014.0523

Lee, O. K. D., Blake, R., & Baby, D. V. (2015). A framework of risk in global IT projects and mitigation strategies from service-oriented architecture. In S. Gao & L. Rusu (Eds.), *Modern techniques for successful IT project management* (pp. 200–209). Hershey, PA: IGI Global.

Leung, L. (2015). Validity, reliability, and generalizability in qualitative research. *Journal of Family Medicine and Primary Care, 4*, 324. doi: 10.4103/2249-4863.161306

Lippke, L., & Tanggaard, L. (2014). Leaning in to “muddy” interviews. *Qualitative Inquiry*, *20*, 136–143. doi:10.1177/1077800413510869

Locatelli, G., Mancini, M., & Romano, E. (2014). Systems engineering to improve the governance in complex project environments. *International Journal of Project Management*, *32*, 1395-1410. doi.org/10.1016%2Fj.ijproman.2013.10.007

Löfsten, H. (2016). New technology-based firms and their survival: The importance of business networks, and entrepreneurial business behaviour and competition. *Local Economy*, *31*(3), 393-409. doi.org/10.1177%2F0269094216637334

Loh, J. (2013). Inquiry into issues of trustworthiness and quality in narrative studies: A perspective. *The Qualitative Report*, *18*(33), 1-15. Retrieved from http://nsuworks.nova.edu/cgi/viewcontent.cgi?article=1477&context=tqr

Lopez-Dicastillo, O., & Belintxon, M. (2014). The challenges of participant observations of cultural encounters within an ethnographic study. *Procedia - Social and Behavioral Sciences*, *132*, 522-526. doi:10.1016/j.sbspro.2014.04.347

Lu, C. J., & Shulman, S. W. (2008). Rigor and flexibility in computer-based qualitative research: Introducing the coding analysis toolkit. *International Journal of Multiple Research Approaches*, *2*(1), 105–117. doi:10.5172/mra.455.2.1.105

Luftman, J., Derksen, B., Dwivedi, R., Santana, M., Zadeh, H. S., & Rigoni, E. (2015). Influential IT management trends: An international study. *Journal of Information Technology*, *30*, 293-305. doi: 10.1057/jit.2015.18

Mannay, D., & Morgan, M. (2015). Doing ethnography or applying a qualitative technique? Reflections from the 'waiting field'. *Qualitative Research*, *15*(2), 166-182. doi:10.1177/1468794113517391.

Martinsuo, M. (2013). Project portfolio management in practice and in context. *International Journal of Project Management*, *31*, 794-803. doi.org/10.1016%2Fj.ijproman.2012.10.013

Mason, M. (2010). Sample size and saturation in PhD studies using qualitative interviews. *Forum: Qualitative Social Research*, *11*(3), 1-19. Retrieved from http://nbn-resolving.de/urn:nbn:de:0114-fqs100387

McNamara, C. (2009). General guidelines for conducting research interviews. *Free Management Library.* Retrieved from http://managementhelp.org/businessresearch/interviews.htm

McNulty, T., Zattoni, A., & Douglas, T. (2013). Developing corporate governance research through qualitative methods: A review of previous studies. *Corporate Governance: An International Review*, *21*, 183–198. doi:10.1111/corg.12006

Mears, A. (2013). Ethnography as precarious work. *The Sociological Quarterly, 54*, 20-34. doi:10.1111/tsq.12005

Merriam, S. B., & Tisdell, E. J. (2016). *Qualitative research: A guide to design and implementation.* New York, NY: Wiley & Sons.

Mir, F. A., & Pinnington, A. H. (2014). Exploring the value of project management: Linking project management performance and project success. *International Journal of Project Management*, *32*, 202–217. doi:10.1016/j.ijproman.2013.05.012

Mishra, D., Akman, I., & Mishra, A. (2014). Theory of reasoned action application for green information technology acceptance. *Computers in Human Behavior*, *36*, 29-40. https://doi.org/10.1016/j.chb.2014.03.030

Mithas, S., Tafti, A., & Mitchell, W. (2013). How a firm's competitive environment and digital strategic posture influence digital business strategy. *Mis Quarterly*, *37*(2), 511-536. Retrieved from https://pdfs.semanticscholar.org/3d7a/359e1c9daf3876fdb53ec9b4f044f4ce4a4f.pdf

Morse, A. L., & McEvoy, C. D. (2014). Qualitative research in sport management: Case study as a methodological approach. *The Qualitative Report, 19*, 1-13. Retrieved from http://www.nova.edu/ssss/QR/QR19/morse17.pdf

Morse, J. M. (2015a). "Data were saturated..." *Qualitative Health Research*, *25*, 587-588. doi:10.1177/1049732315576699

Morse, J. M. (2015b). Critical analysis of strategies for determining rigor in qualitative inquiry. *Qualitative Health Research*, *25*, 1212-1222. doi:10.1177/1049732315588501

Moustakas, C. (1994). *Phenomenological research methods.* Thousand Oaks, CA: Sage.

Moylan, C. A., Derr, A. S., & Lindhorst, T. (2015). Increasingly mobile: How new technologies can enhance qualitative research. *Qualitative Social Work*, *14*(1), 36–47. doi:10.1177/1473325013516988

Mueller, J. (2015). Formal and informal practices of knowledge sharing between project teams and enacted cultural characteristics. *Project Management Journal*, *46*(1), 53-68. doi.org/10.1002%2Fpmj.21471

National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, The. (2003). *The Belmont report: Ethical principles and guidelines for the protection of human subjects of research*. Washington, DC: Author. http://dx.doi.org/10.1017/cbo9780511550089.028

Niazi, M., Mahmood, S., Alshayeb, M., Riaz, M. R., Faisal, K., Cerpa, N., & Richardson, I. (2016a). Challenges of project management in global software development: A client-vendor analysis. *Information and Software Technology, 80*, 1-19. doi: http://dx.doi.org/10.1016/j.infsof.2016.08.002

Niazi, M., Mahmood, S., Alshayeb, M., Qureshi, A. M., Faisal, K., & Cerpa, N. (2016b). Toward successful project management in global software development. *International Journal of Project Management, 34*(8), 1553-1567. doi: http://dx.doi.org/10.1016/j.ijproman.2016.08.008

Niazi, M., Mahmood, S., Alshayeb, M., & Hroub, A. (2015). Empirical investigation of the challenges of the existing tools used in global software development projects. *IET Software*, *9*(5), 135-143. doi.org/10.1049/iet-sen.2014.0130

Nikpay, F., Selamat, H., Rouhani, B. D., & Nikfard, P. (2013). A review of critical success factors of enterprise architecture implementation. In *Informatics and Creative Multimedia (ICICM), 2013 International Conference on*, 38–42. doi:10.1109/icicm.2013.16

Noble, H., & Smith, J. (2015). Issues of validity and reliability in qualitative research. *Evidence Based Nursing*, *18*(2), 34-35. doi:10.1136/eb-2015-102054

Olaniran, O. J., Love, P. E. D., Edwards, D. J., Olatunji, O., & Matthews, J. (2015). Chaotic dynamics of cost overruns in oil and gas megaprojects: A review. *World Academy of Science, Engineering, and Technology, International Journal of Civil, Environmental, Structural, Construction, and Architectural Engineering*, *9*, 881–887. Retrieved from http://waset.org/publication/

Packendorff, J., & Lindgren, M. (2014). Projectification and its consequences: Narrow and broad conceptualisations. *South African Journal of Economic and Management Sciences*, *17*(1), 7-21. Retrieved from http://www.scielo.org.za/scielo.php?pid=S2222-34362014000100003&script=sci_arttext&tlng=pt

Panas, A., Pantouvakis, J. P., & Lambropoulos, S. (2014). A simulation environment for construction project manager competence development in construction management. *Procedia-Social and Behavioral Sciences*, *119*, 739–747. doi:10.1016/j.sbspro.2014.03.083

Papke-Shields, K. E., & Boyer-Wright, K. M. (2017). Strategic planning characteristics applied to project management. *International Journal of Project Management*, *35*(2), 169-179. doi.org/10.1016%2Fj.ijproman.2016.10.015

Pietkiewicz, I., & Smith, J. A. (2014). A practical guide to using Interpretative Phenomenological Analysis in qualitative research psychology. *Psychological Journal*, *20*(1), 7-14. doi.org/10.14691%2Fcppj.20.1.7

Petter, S., Randolph, A., DeJong, J., & Robinson, A. T. (2016). The trouble with troubled projects: Keeping mum during times of crisis. *AIS Transactions on Replication Research*, *2*(1), 6. Retrieved from http://aisel.aisnet.org/cgi/viewcontent.cgi?article=1015&context=trr

Pollack, J., & Algeo, C. (2014). A comparison of project manager and change manager involvement in organizational change project activities and stages. *Journal of Modern Project Management*, *2*(2), 1–15. doi:10.1002/pmj.21446

Popescu, M., & Stoica, I. (2015). Considerations regarding the psychosomatics importance in achieving business success in the context of globalization. *Calitatea*, *16*, 200–204. Retrieved from http://www.srac.ro/calitatea/en/arhiva_supplements.html

Reardon, J., Basin, D., & Capkun, S. (2014). On secure data deletion. *Security & Privacy*, *12*(3), 37–44. doi:10.1109/MSP.2013.159

Robinson, O. C. (2014). Sampling in interview-based qualitative research: A theoretical and practical guide. *Qualitative Research in Psychology*, *11*(1), 25–41. doi:10.1080/14780887.2013.801543

Rodrigues, I., & Sbragia, R. (2013). The cultural challenges of managing global project teams: A study of Brazilian multinationals. *Journal of Technology Management & Innovation*, *8*, 7–8. doi:10.4067/s0718-27242013000300004

Savolainen, P., Ahonen, J. J., & Richardson, I. (2015). When did your project start? The software supplier's perspective. *Journal of Systems and Software*, *104*, 32-40. doi.org/10.1016/j.jss.2015.02.041

Scott, M. L., & Lock, M. D. (Eds.). (2013). *Gower handbook of people in project management*. London, England: Gower.

Seitz, S. (2016). Pixilated partnerships, overcoming obstacles in qualitative interviews via Skype: A research note. *Qualitative Research*, *16*, 229-235. doi.org/10.1177%2F1468794115577011

Sharma, V. (2013). Managing information technology projects. *Global Journal of Enterprise Information System*, *5*(2), 73–75. Retrieved from http://www.gjeis.org/

Shaw, I. (2008). Ethics and the practice of qualitative research. *Qualitative Social Work: Research and Practice*, *7*, 400–414. doi:10.1177/1473325008097137

Shenton, A. K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information 22*(2), 63–75. Retrieved from http://content.iospress.com/articles/education-for-information/efi00778

Sloan, A., & Bowe, B. (2014). Phenomenology and hermeneutic phenomenology: The philosophy, the methodologies, and using hermeneutic phenomenology to investigate lecturers' experiences of curriculum design. *Quality & Quantity*, *48*(3), 1291-1303. doi.org/10.1007%2Fs11135-013-9835-3

Söderlund, J., & Müller, R. (2014). Project management and organization theory: IRNOP meets PMJ. *Project Management Journal*, *45*(4), 2–6. doi:10.1002/pmj.21442

Sousa, D. (2014). Validation in qualitative research: General aspects and specificities of the descriptive phenomenological method. *Qualitative Research in Psychology*, *11*(2), 211-227. doi:10.1080/14780887.2013.853855

Stake, R. E. (2010). *Qualitative research: Studying how things work*. New York, NY: Guilford.

Stake, R. E. (2013). *Multiple case study analysis*. London, England: Guilford.

Stan, M., & Vermeulen, F. (2013). Selection at the gate: Difficult cases, spillovers, and organizational learning. *Organization Science*, *24*, 796–812. doi:10.1287/orsc.1120.0763

Stingl, V., & Geraldi, J. (2017). Errors, lies and misunderstandings: Systematic review on behavioural decision making in projects. *International Journal of Project Management*, *35*(2), 121-135. doi.org/10.1016%2Fj.ijproman.2016.10.009

Sumner, M., & Powell, A. (2013). What project management competencies are important to job success? *Proceedings from the Americas Conference on Information Systems AMCIS 2013 Chicago*. Chicago, IL, 1-9. Retrieved from https://pdfs.semanticscholar.org/c731/296c876eeacc84aac37a001fdba35af39434.pdf

Svendsen, G. B., Johnsen, J. A. K., Almås-Sørensen, L., & Vittersø, J. (2013). Personality and technology acceptance: The influence of personality factors on the core constructs of the technology acceptance model. *Behaviour & Information Technology*, *32*, 323–334. doi:10.1080/0144929x.2011.553740

Thomas, S., & Beh, L. (2013). Ensuring continuity and credibility of research through audit trail: Guidelines and examples from case studies. *Scottish Journal of Arts, Social Sciences and Scientific Studies*, *15*(2), 102-117. http://scottishjournal.co.uk/paper/sjass_vol.15_no.2.pdf

Tong, A., & Dew, M. A. (2016). Qualitative research in transplantation: Ensuring relevance and rigor. *Transplantation*, *100*, 710-712. doi.org/10.1097%2Ftp.0000000000001117

Tong, P., Umesh, U. N., Johnson, J. L., & Lee, R. P. (2016). Collaborative relationships: The role of information technology. *International Journal of Innovation and Technology Management*, *13*(3), 1640006. https://doi.org/10.1142/s021987701640006x

Tracy, S. J. (2013). *Qualitative research methods: Collecting evidence, crafting analysis, communicating impact*. Hoboken, NJ: Wiley-Blackwell.

Trivellas, P., & Drimoussis, C. (2013). Investigating leadership styles, behavioural and managerial competency profiles of successful project managers in Greece. *Procedia-Social and Behavioral Sciences*, *73*, 692–700. doi:10.1016/j.sbspro.2013.02.107

Turkulainen, V., Ruuska, I., Brady, T., & Artto, K. (2015). Managing project-to-project and project-to-organization interfaces in programs: Organizational integration in a global operations expansion program. *International Journal of Project Management*, *33*, 816–827. doi:10.1016/j.ijproman.2014.10.008

Turner, J. R., Anbari, F., & Bredillet, C. (2013). Perspectives on research in project management: The nine schools. *Global Business Perspectives*, *1*(1), 3–28. doi:10.1007/s40196-012-0001-4

Van der Aalst, W. M. (2013). Business process management: A comprehensive survey. *ISRN Software Engineering*, *2013*, 1–37. doi:10.1155/2013/507984

Venkatesh, V., & Bala, H. (2013). Technology acceptance model 3 and a research agenda on interventions. *Decision Sciences*, *39*, 273–315. doi:10.1111/j.1540-5915.2008.00192.x

Verner, J. M., Brereton, O. P., Kitchenham, B. A., Turner, M., & Niazi, M. (2014). Risks and risk mitigation in global software development: A tertiary study. *Information and Software Technology*, *56*(1), 54-78. doi.org/10.1016%2Fj.infsof.2013.06.005

Walker, J. L. (2012). The use of saturation in qualitative research. *Canadian Journal of Cardiovascular Nursing, 22*(2), 37-46. Retrieved from http://www.cccn.ca

Wang, F., & Zhang, X. P. S. (2015). The role of the Internet in changing industry competition. *Information & Management*, *52*(1), 71-81. doi.org/10.1016%2Fj.im.2014.10.006

Wang, J. (2013). *Perspectives and techniques for improving information technology project management*. New York, NY: IGI Global.

White, D. E., Oelke, N. D., & Friesen, S. (2012). Management of a large qualitative data set: Establishing trustworthiness of the data. *International Journal of Qualitative Methods*, *11*, 244–258. Retrieved from https://ejournals.library.ualberta.ca/index.php/IJQM/article/viewFile/9883/14129

Whitney, K. M., & Daniels, C. B. (2013). The root cause of failure in complex IT projects: Complexity itself. *Procedia Computer Science*, *20*, 325–330. doi:10.1016/j.procs.2013.09.280

Wilson, A. D., Onwuegbuzie, A. J., & Manning, L. P. (2016). Using paired depth interviews to collect qualitative data. *The Qualitative Report*, *21*(9), 1549. Retrieved from http://nsuworks.nova.edu/tqr/vol21/iss9/1

Winch, G. M. (2014). Three domains of project organising. *International Journal of Project Management*, *32*, 721-731. doi.org/10.1016%2Fj.ijproman.2013.10.012

Woolcock, M. (2013). Using case studies to explore the external validity of "complex" development interventions. *Evaluation*, *19*, 229–248. doi:10.1177/1356389013495210

Yardley, S. J., Watts, K. M., Pearson, J., & Richardson, J. C. (2014). Ethical issues in the reuse of qualitative data: perspectives from literature, practice, and participants. *Qualitative Health Research*, *24*(1), 102-113. doi:10.1177/1049732313518373

Yin, R. K. (2014). *Case study research: Design and methods* (5th ed.). Thousand Oaks, CA: Sage.

Zamawe, F. C. (2015). The implication of using NVivo software in qualitative data analysis: Evidence-based reflections. *Malawi Medical Journal*, *27*(1), 13-15. doi:10.4314/mmj.v27i1.4:

Zheng, S., Liao, X., & Liu, X. (2014). Risk intelligence: Making profit from uncertainty in data processing system. *Scientific World Journal*, *2014*, 1–16. doi:10.1155/2014/39823

Zwikael, O., & Smyrk, J. (2015). Project governance: Balancing control and trust in dealing with risk. *International Journal of Project Management*, *33*, 852-862. https://doi.org/10.1016/j.ijproman.2014.10.012

Appendix A: Interview Protocol

What you will do	What you will say-script
Introduce the interview and set the stage	First, I want to thank you for agreeing to do this interview. Before we begin, I would like to confirm that you have read and signed the informed consent form, that you understand that your participation in this study is voluntary, that you may refuse to answer any questions, and that you may withdraw from the study at any time. As I previously mentioned this research includes the investigation of the core competencies necessary for global IT project management.
• Paraphrase as needed • Ask follow-up probing questions to obtain more in-depth responses	1. What business strategies do you consider the most critical when managing global IT projects?
	2. What are the most common causes for failure in managing global IT projects?
	3. How do you manage the variations in culture, time, geography, and law when managing global IT projects?
	4. What are the biggest barriers that you must overcome when managing a global IT project?
	5. What key factors did you experience when you managed a global IT project?
	6. Is there any additional information on core competencies and business strategies on global IT projects that you would like to share?
Wrap up interview thanking the participant	I want to thank you for agreeing to participate in this interview. Again, your participation in this study is voluntary, that you may refuse to answer any questions, and that you may withdraw from the study at any time.
Schedule follow-up	I will contact you following interview transcription and data.

Appendix B: Recruitment Email

Greetings.

My name is Gregory M. Von Schleh and I am a Doctoral Candidate working on my dissertation at Walden University. I am conducting a research study concerning the Core Competencies Necessary for Global Information Technology Project Management. I am emailing to ask if you would like to take about 45 to 60-minute interview to complete during or after normal work hours. Participation is completely voluntary and your answers will be anonymous.

If you are interested, please indicate so by emailing a written approval by replying to this email and given your interest.

If you have any questions, please do not hesitate to contact me (Gregory.vonschleh@waldenu.edu) or ([redacted]) [redacted].

Thank you for your time.

Gregory M. Von Schleh
Doctoral Candidate
Walden University

Appendix C: Recruitment Flyer

VOLUNTEERS WANTED FOR A RESEARCH STUDY

The Core Competencies Necessary for Global Information Technology Project Management

Are you over the age of 18 and currently working on Global IT Projects? Do you have 5 or more years in the IT Project Management field? I am conducting a research study about *Core Competencies Necessary for Global Information Technology Project Management*! The purpose of this study may contribute to social change by helping companies contribute to corporate social responsibility (CSR) through improvements in the fields of ethical standards and international norms. Additionally, researchers may use the resulting data to develop a model for improving the performance of global projects.

(IRB number: #06-19-17-0010725)